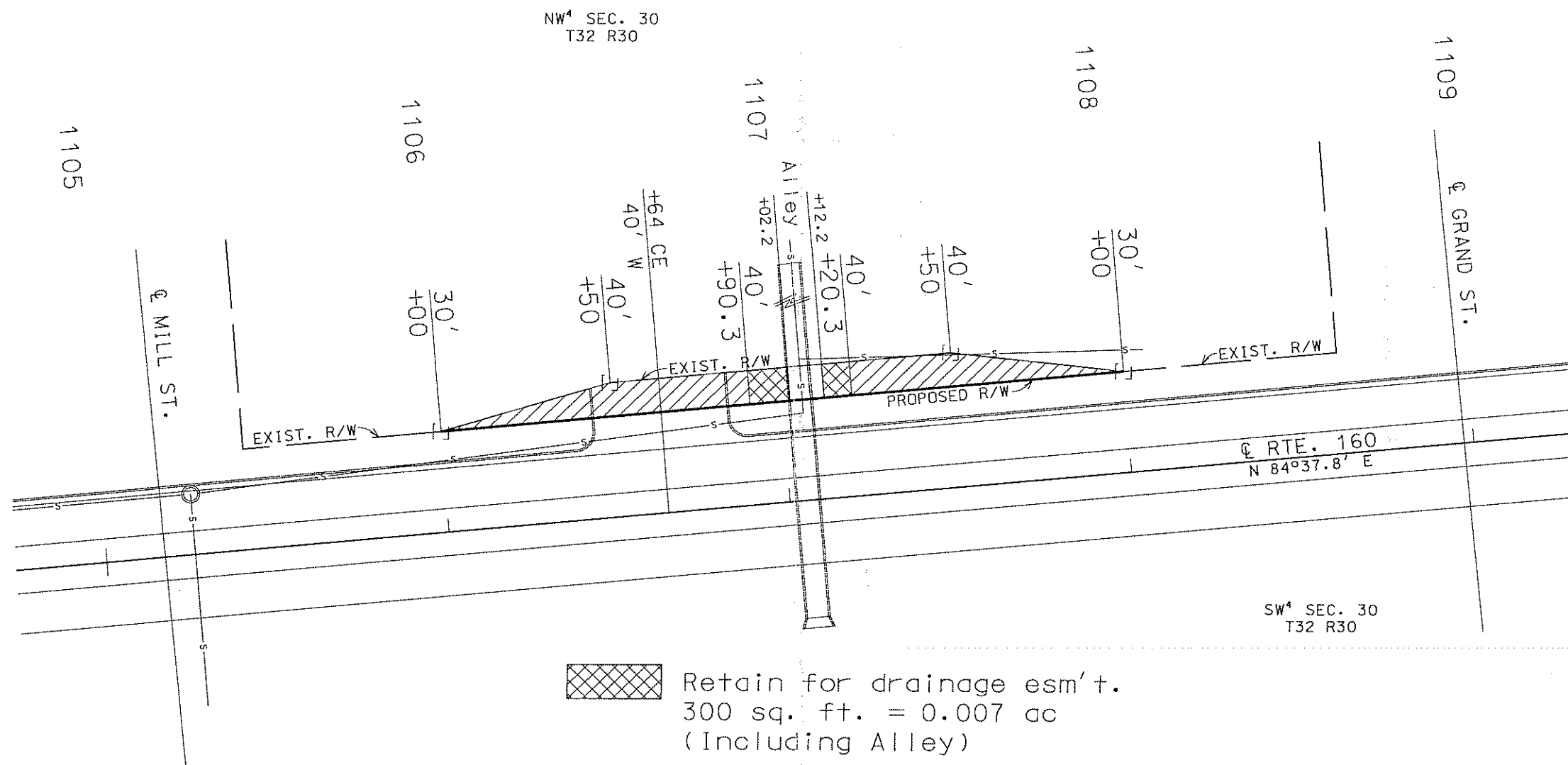



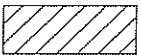
Don't have approved ADA ownership memo and map yet.


RWR

1-IN HP ~ 1"
Exp ~ 506



 Retain for drainage esm't.
300 sq. ft. = 0.007 ac
(Including Alley)

 Proposed Excess R/W
1199.99 sq. ft. = 0.028 ac

 Reserved for alley
100 sq. ft. = 0.002 ac

ROUTE 160
COUNTY BARTON
PROJECT NO. 7-P-160-334
REC. DATE 5-21-2003
BOOK 491 PAGE 55-58

DESIGN DESIGNATION

A.D.T. - 1986 = 7450
A.D.T. - 2006 = 10,450

D.H.V. = 10 %
T = 3 %
V = 40 M.P.H.

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

PLANS FOR PROPOSED STATE HIGHWAY

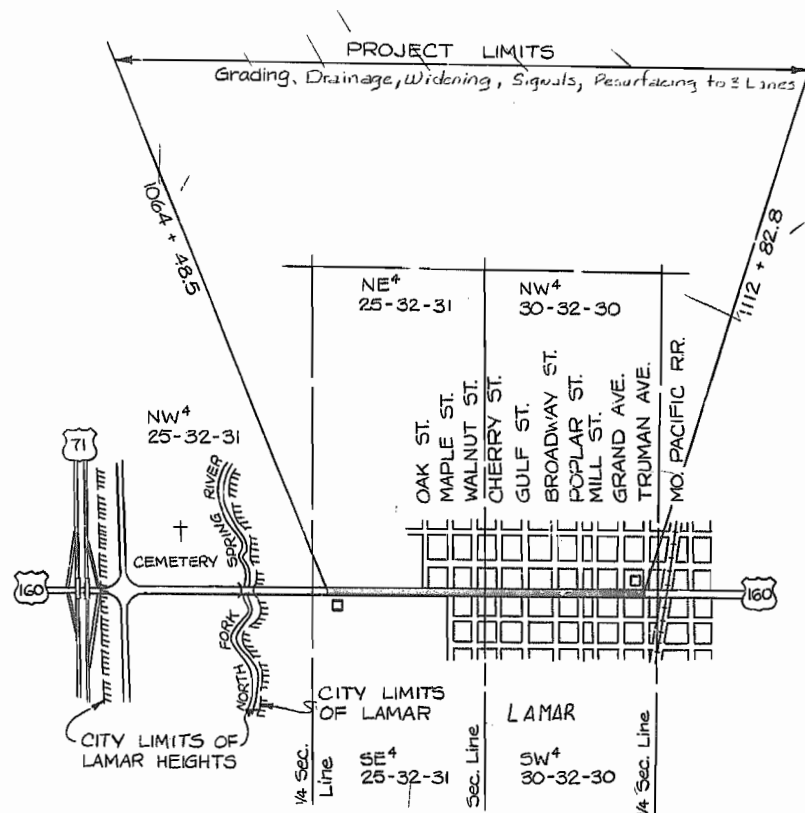
FINAL PLANS

COUNTY BARTON
ROUTE 160
PROJECT 7-P-160-334
JOB NO. 7-P-160-334

R/W PROJECT F-160-1(14)

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
TYPICAL SECTIONS (2 SHEETS)	2
SUMMARY (1 SHEET)	2-A
SUMMARY (5 SHEETS)	2-B
PLAN-PROFILE	3-20
REFERENCE POINTS	21, 22
SPECIAL SHEETS - TRAFFIC CONTROL PLAN	21, 22
LIGHTING	23-26
SIGNALS	23-26
SIGNING	27-37
CULVERT SECTIONS	38
BRIDGE DRAWINGS	
STANDARD PLANS INDEX	
CROSS SECTIONS	
COMPUTER DATA	



LENGTH OF PROJECT

END OF PROJECT STA. 1112+82.8
BEGINNING OF PROJECT STA. 1064+48.5
APPARENT LENGTH 4,834.3 FEET
EQUATIONS AND EXCEPTIONS NONE

TOTAL CORRECTIONS 4,834.3 FEET
NET LENGTH OF PROJECT 0.916 MILES
STATE LENGTH 0.916 MILES

FEDERAL LENGTH 0.916 MILES

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

SUBMITTED
Wayne Murr 1-28-88
CHIEF ENGINEER DATE

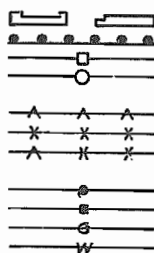
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR DATE

CONVENTIONAL SIGNS (USED IN PLANS)

BUILDINGS AND STRUCTURES
GUARD RAIL
CONCRETE RIGHT-OF-WAY MARKER
STEEL RIGHT-OF-WAY MARKER
FENCE
CHAIN LINK
WOVEN WIRE
GATE
UTILITIES
TELEPHONE
POWER
GAS
WATER



TITLE SHEET LEGEND

EXISTING (2006) ☐

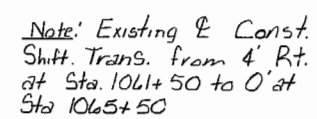
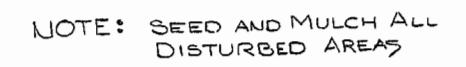
NOTE: DASHED OR OPEN SYMBOL INDICATES EXISTING FEATURE

500 0 500
SCALE IN FEET



483

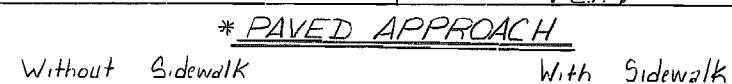
GENERAL PLANS



Sheet 1 of 2

ORIGINAL SURVEY	NO.	DATE	BY	SURVEYED	
				PLOTTED	
NOTE BOOK	5	DATE	BY	PLOTTED	
				TERMINATED	
AREAS	5	DATE	BY	AREAS	
				CHECKED	

FINAL PLANS



The diagram illustrates a cross-section of a road pavement structure. A horizontal line represents the ground surface, with a label "Var. Slope" on the left. Above the surface, a dimension line indicates the "Temp. Esmt. or City R/W" (Temporary Easement or City Right-of-Way). Below the surface, a dimension line indicates a "Var." (Variable) distance. On the right, a vertical line marks the "Match Exist. Elev." (Match Existing Elevation). Below the surface, a cross-section of a circular structure (likely a manhole or culvert) is shown, surrounded by a hatched area representing the "Type 'C' Asph. Conc." (Type 'C' Asphalt Concrete). Below this, a layer is labeled "Exist. Asph." (Existing Asphalt). The bottom layer is labeled "4' Plant Mix Bit. Base" (4 feet Plant Mix Bit. Base). The entire structure is supported by a "Compact Earth Backfill" (Compact Earth Backfill).

3" Type 1 Aggr

Sidewalk 4"

Sand & Mulch

Wheel Chair Ramp

3rd Type I

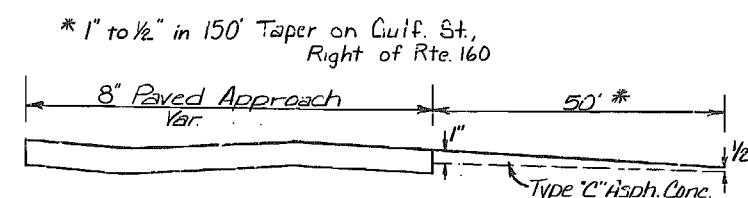
Var. 4' Ramp

Aggr.

1' 4"

Note: For further details see Std. 608.10

Section A-A



Var. 11.7' ± 15'

CL

Exist. Width

Exist. Curb

10" Plant Mix Bituminous Base

Type 2" Asph. Conc.

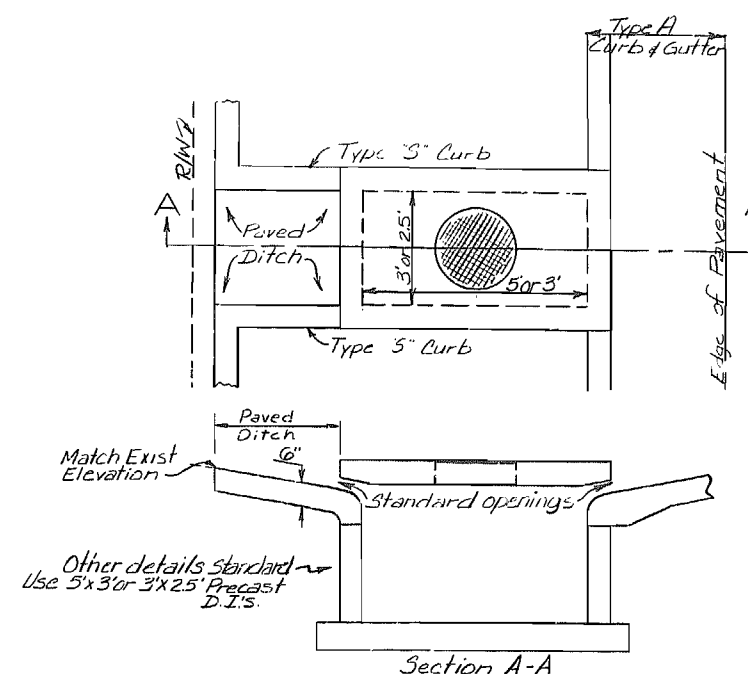
CL

Exist. Curb

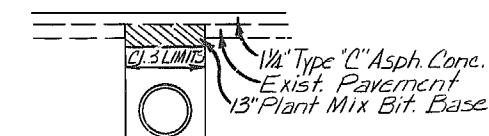
Type 2" Asph. Conc.

10" Plant Mix Bit. Base

TYPICAL SIDE-ROAD HALF-SECTION
BEHIND PAVED APPROACH



MODIFIED TYPE "T" DROP INLET



TYPICAL AT CROSSROAD STRUCTURE

SHEET 1 OF 1

STATE NO.	JOB NO.	7-P-160-334	SHEET NO.	2A
DIST. NO.	PROJECT NO.	7-P-160-334	ROUTE	160
7	COUNTY	BARTON		

ITEM	DESCRIPTION	UNIT	QUANTITY
202-20.10	REMOVAL OF IMPROVEMENTS	LUMP SUM	1
206-30.00	CLASS 3 EXCAVATION	CU YD	7582
212-20.00	SUBGRADING AND SHOULDERING CLASS 2	STATION	62.1
301-30.11	ASPHALT CEMENT (BASE WIDENING) AC-20	TON	231.4
301-40.00	MINERAL AGGREGATE (BASE WIDENING)	TON	5837
304-00.33	TYPE 1 (3 IN. THICK) AGGREGATE FOR BASE	SQ YD	2508
304-00.43	TYPE 1 (4 IN. THICK) AGGREGATE FOR BASE	SQ YD	7081
304-00.53	TYPE 1 (5 IN. THICK) AGGREGATE FOR BASE	SQ YD	536
310-70.01	CRUSHED STONE	CU YD	20
390-90.00	TEMPORARY SURFACING	CU YD	200
403-10.11	ASPHALT CEMENT (ASPHALTIC CONCRETE) AC-20	TON	1549
403-80.00	MINERAL AGGREGATE (ASPHALTIC CONCRETE) (TYPE C MIX)	TON	2563
407-10.05	TACK COAT	GALLON	2000
408-10.10	PRIME-LIQUID ASPHALT MC 30	GALLON	300
601-10.00	FIELD LABORATORIES	LUMP SUM	1
604-40.11	PIPE COLLAR, TYPE A	EACH	2
604-40.12	PIPE COLLAR, TYPE B	EACH	2
605-20.20	CLASS B UNDERDRAIN	LIN FT	103
608-50.08	PAVED APPROACH, 8 IN.	SQ YD	7142.3
608-60.04	CONCRETE SIDEWALK, 4 IN.	SQ YD	412.4
609-10.10	CONCRETE CURB (6 IN. HEIGHT AND UNDER) TYPE S	LIN FT	3162
609-10.51	CURB AND GUTTER TYPE A	LIN FT	4333
609-10.60	PAVED DITCH	SQ YD	4.9
609-70.00	ROCK LINING	CU YD	12
614-10.10	GRATES AND BEARING PLATES	POUND	14530
614-30.13	MANHOLE FRAME AND COVER, TYPE 3	EACH	18
614-30.14	MANHOLE FRAME AND COVER TYPE 4	EACH	9
614-30.20	CURB INLET	EACH	20
616-10.05	CONSTRUCTION SIGNS	SQ FT	588
616-10.20	CHANNELIZERS (DRUMS)	EACH	228
618-10.00	MOBILIZATION	LUMP SUM	1
622-10.00	TEMPORARY PAVEMENT MARKING	MILE	1.1
703-20.01	CLASS B CONCRETE (CULVERTS)	CU YD	14.6
706-10.30	REINFORCING STEEL (CULVERTS)	POUND	1,570
726-13.12	12 IN. CLASS III REINFORCED CONCRETE PIPE CULVERT	LIN FT	525
726-13.15	15 IN. CLASS III REINFORCED CONCRETE PIPE CULVERT	LIN FT	1,306
726-13.18	18 IN. CLASS III REINFORCED CONCRETE PIPE CULVERT	LIN FT	2,147
726-13.24	24 IN. CLASS III REINFORCED CONCRETE PIPE CULVERT	LIN FT	1,643

ITEM	DESCRIPTION	UNIT	QUANTITY
726-13.30	30 IN. CLASS III REINFORCED CONCRETE PIPE CULVERT	LIN FT	1203
726-13.36	36 IN. CLASS III REINFORCED CONCRETE PIPE CULVERT	LIN FT	1,303
731-00.48	PRECAST CONCRETE MANHOLE - 48 IN.	FT	15
731-00.60	PRECAST CONCRETE MANHOLE - 60 IN.	FT	37
731-10.22	PRECAST CONCRETE DROP INLET 2 FT X 2 FT	FT	110
731-10.30	PRECAST CONCRETE DROP INLET 3 FT X 2 FT-6 IN.	FT	45
731-10.32	PRECAST CONCRETE DROP INLET 3 FT X 2 FT	FT	54
731-10.42	PRECAST CONCRETE DROP INLET 4 FT X 2 FT	FT	2
731-10.53	PRECAST CONCRETE DROP INLET 5 FT X 3 FT	FT	44
732-00.12	12 IN. FLARED END SECTION	EACH	3
732-00.18	18 IN. FLARED END SECTION	EACH	5
732-00.24	24 IN. FLARED END SECTION	EACH	1
732-00.36	36 IN. FLARED END SECTION	EACH	1
802-30.00	TYPE 3 MULCH	ACRE	1.1
805-10.00	SEEDING	ACRE	1.1
	TRAFFIC SIGNALS		
902-02.13	SIGNAL HEAD, TYPE 3S	EACH	2
902-05.13	SIGNAL HEAD, TYPE 3B	EACH	6
902-05.15	SIGNAL HEAD, TYPE 5B	EACH	2
902-26.50	150 WATT 120 VOLT HIGH PRESSURE SODIUM LUMINAIRE	EACH	4
902-31.28	POST, TYPE CL, 28A	EACH	1
902-31.31	POST, TYPE CL, 31A	EACH	2
902-31.39	POST, TYPE CL, 39A	EACH	1
902-42.80	CONTROLLER ASSEMBLY HOUSING, KEYBOARD ENTRY, MODULAR 3Y FUNCTION, 8 PHASE DP CONTROLLER	EACH	1
902-49.20	DETECTOR, PUSHBUTTON	EACH	8
902-49.40	DETECTOR, INDUCTION LOOP VEHICLE	EACH	9
902-51.25	CONDUIT, 1 1/4 IN., TRENCH	LIN FT	46
902-52.00	CONDUIT, 2 IN., TRENCH	LIN FT	84
902-52.30	CONDUIT, 2 1/2 IN., TRENCH	LIN FT	49
902-53.00	CONDUIT, 3 IN., TRENCH	LIN FT	81
902-72.00	CONDUIT, 2 IN., PUSHED	LIN FT	24
902-72.50	CONDUIT, 2 1/2 IN., PUSHED	LIN FT	24
902-82.08	CABLE, 8 AWG 1 CONDUCTOR, POWER	LIN FT	180
902-83.02	CABLE, 12 AWG 2 CONDUCTOR	LIN FT	1,410
902-83.07	CABLE, 12 AWG 7 CONDUCTOR	LIN FT	960
902-85.00	CABLE, LOOP DETECTOR, IN DUCT	LIN FT	3,000
902-85.10	CABLE, LOOP DETECTOR, LEAD-IN	LIN FT	930

[illegible]

ACCEPTED, MAY 11, 1989

PREPARED By: J. J. [Signature]

□₂₄ + : 4 - 7 - 27

RESIDENT ENGINEER: J. W. K. T. S. 11

Case:	6-14-89
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DISTRICT OFFICE: Donald R Towne

7-10-57	
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MAIN OFFICE : P-63 D#

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	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
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REMOVAL OF IMPROVEMENTS

Lump Sum	1
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PAVED APPROACHES (CONTINUED)				
LINE NO.	DATE	DESCRIPTION	BY	CHKD
1	11/17/78	PAVED APPROACHES	11/17/78	
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Lump Sum 1.									
PAVED APPROACHES									
Sheet	Sta.	Type & Loc.	Width Ft.	Length Ft.	Radius Lt. & Rt.	B' Conc. S.Y.	4" Type 1 Aggr. S.Y.	Remarks	
4	1066150	C.E.P.H.	40'	11'	5'	53.4		Aggr. Surf. 17' beyond appr.	
4	1065111	C.E.L.H.	20'	11'	5'	220	17.2	" " 23' " "	
4	1065172	C.E.L.H.	20'	11'	5'	220	17.2	" " 17' " "	
4	1066112	C.E.P.H.	40'	11'	5'	53.4			
4	1066172	P.E.L.H.	20'	11'	5'	220	17.2	Used C.E. Sid.	
4	1066180	C.E.P.H.	40'	11'	5'	53.4			
4	1067122	C.E.L.H.	60'	11'	5'	77.9	46.1	Aggr. Surf. 5' beyond appr.	
4	1067155	C.E.P.H.	40'	11'	5'	53.4			
4	1068163	C.E.P.H.	40'	11'	5'	53.4			
6	1069126	C.E.L.H.	60'	11'	5'	77.9	46.1		
6	1069131	C.E.P.H.	40'	11'	5'	53.4			
6	1070125	C.E.P.H.	40'	11'	5'	53.4			
6	1070112	C.E.L.H.	30'	11'	5'	41.2	24.4		
6	1070175	C.E.L.H.	50'	11'	5'	65.6	38.9	Aggr. Surf. 5' beyond appr.	
6	1070183	C.E.P.H.	50'	11'	5'	65.6			
6	1071130	C.E.L.H.	32'	11'	5'	43.6	25.9		
6	1071182	C.E.P.H.	55'	11'	5'	71.7			
6	1072122	C.E.L.H.	50'	11'	5'	65.6	38.9		
6	1072127	C.E.P.H.	60'	11'	5'	77.9			
6	1073110	C.E.L.H.	60'	11'	5'	77.9	46.1		
6	1074125	C.E.P.H.	50'	11'	5'	65.6			
6	1074126	C.E.L.H.	60'	11'	5'	77.9	46.1		
8	1075151	C.E.L.H.	40'	11'	5'	53.4	31.6		
8	1076175	C.E.P.H.	45'	11'	5'	59.5			
8	1076178	C.E.P.H.	30'	11'	5'	41.2	24.4	Aggr. Surf. 4' beyond appr.	
8	1076186	S.L.S.H.	40'	30.2	25'	132.8	149.1	Oak Street	
8	1076150	C.E.L.H.	50'	11'	5'	65.6			
8	1076165	C.E.L.H.	55'	11'	5'	71.7	42.5	4" Bit Base beyond appr.	
10	1080151	C.E.L.H.	34'	11'	5'	46.1	27.3	4" Bit Base beyond appr.	
10	1080121	C.E.P.H.	50'	11'	5'	65.6			
10	1081125	C.E.L.H.	50'	11'	5'	65.6	38.9		
10	1081126	C.E.L.H.	50'	11'	5'	65.6	38.9		
10	1082152	S.L.S.H.	30'	29.5	25'	42.6	118.0	Maple Street	
10	1082153	S.L.S.H.	30'	32.5	25'	150.6		Maple Street - 4" Bit Base & 3/4"	
10	1082143	C.E.P.H.	50'	11'	5'	65.6			
10	1082126	C.E.P.H.	50'	11'	5'	65.6			
10	1084150	Alley L.H.	14'	11'	8'	25.5	14.3		
10	1084127	C.E.P.H.	50'	11'	5'	65.6			
10	1085123	C.E.L.H.	40'	11'	5'	53.4	31.6		
12	1085175	C.E.P.H.	40'	11'	5'	53.4			
12	1086123	S.L.S.H.	30'	28'	25'	40.0	112.5	Walnut Street	
12	1086122	S.L.S.H.	30'	28'	25'	40.0		Walnut Street -	
12	1087163	P.E.L.H.	14'	11'	5'	21.6	12.9	Used C.E. Sid.	
12	1087171	C.E.P.H.	50'	11'	5'	65.6			
12	1088155	Alley L.H.	14'	11'	8'	25.5	14.3		
12	1089119	C.E.P.H.	50'	11'	5'	65.6			
12	1089129	C.E.L.H.	30'	11'	5'	41.2	24.4		
12	1089135	C.E.L.H.	30'	11'	5'	41.2	24.4		
12	1090125	S.L.S.H.	30'	28'	25'	132.8	112.5	Cherry Street	
12	1090126	S.L.S.H.	40'	23'	25'	170.9		Cherry Street	
12	1090153	C.E.L.H.	55'	11'	5'	71.7	42.5		
12	1090125	C.E.P.H.	57'	11'	5'	74.2			
12	1091175	C.E.P.H.	60'	11'	5'	77.9			
12	1091180	Alley	90'	11'	5'	114.5	67.8		
14	1092150	C.E.P.H.	60'	11'	5'	77.9			
14	1092175	C.E.P.H.	15'	11'	5'	22.9			
14	1093123	C.E.L.H.	60'	11'	5'	77.9	46.1		
14	1093111	C.E.P.H.	52'	11'	5'	63.1			
14	1094125	S.L.S.H.	50'	32.9'	30'	278.5		Gulf Street	
14	1094125	S.L.S.H.	52.8'	33.7'	30'	260.6		Gulf Street	
14	1095120	C.E.P.H.	60'	11'	5'	77.9			
14	1096123	C.E.P.H.	60'	11'	5'	77.9			
14	1096183	C.E.P.H.	24'	11'	5'	33.9			
14	1096180	C.E.L.H.	30'	11'	5'	41.2	24.4		

Sheet	Sta.	Type & Loc.	Width Ft.	Length Ft.	Radius Ft.	3" Conc. S.Y.	4" Type S.Y.	Appr.	Remarks
14	1027152.3	C.E.H.	30	11	5	41.2	24.4		
16	1028432.5	C.E.H.	30	11	5	41.2	24.4		
16	1029055.4	Sd.St.H.	51.6	29.1	25	213.1			Broadway Street
16	1029105.4	Sd.St.H.	52.9	29	25	217.3			Broadway Street
16	1029184.2	C.E.H.	30	11	5	65.6	38.9		
16	1029183.1	C.E.H.	50	11	5	65.6			
16	1100712.4	C.E.H.	30	11	5	41.2	24.4		
16	1100725.4	C.E.H.	40	11	5	53.4			
16	1101472.4	Ally. Lt.	15	11	8	25.5	14.3		
16	1101420.4	C.E.H.	30	11	5	41.2			
16	1101462	C.E.H.	30	11	5	41.2	24.4		
16	1102113	P.E.H.	20	11	5	22.0	12.2		Used C.E. Std.
16	1102427	C.E.H.	24	11	5	33.9	20.1		
16	1103106.7	Sd.St.H.	30	23.8	25	142.5	115.4		Poplar Street
16	1103106.7	Sd.St.H.	30	23.8	25	142.5	115.4		Poplar Street
13	1105171.8	Sd.St.H.	30	23.6	25	141.8	114.7		Mill Street
18	1105171.2	Sd.St.H.	30	23.6	25	141.8			Mill Street
18	1106130	C.E.H.	30	8	5	31.2			
18	1106164	C.E.H.	40	11	5	53.4	31.6		Appr. 10' beyond appr. to R/W
18	1108197.8	Sd.St.H.	30	23.7	25	142.1	115.1		Grand Street
18	1108197.1	Sd.St.H.	30	23.7	25	142.1			Grand Street
18	1109485	P.E.H.	20	11	5	22.0			Used C.E. Std.
20	1110106	C.E.H.	30	11	5	41.2	24.4		
20	1101772.8	C.E. & Appr.	40	11	5	53.4	31.6		
20	1110720.3	Ally. Lt.	15	11	8	25.7			Appr. Surf. 11' beyond appr.
20	111152.8	C.E.H.	30	8	5	31.2			
20	111472.3	Obli. R.H.	30	12.5	5	46.2	22.9		Appr. Surf. 5' beyond appr.
20	112152.8	Sd.St.H.	27	23	25	126.4	102.2		Truman Street
20	112152.3	Sd.St.H.	27	23.1	25	126.3			Truman Street
				TOTALS		742.3	2230.9		

FIELD ENTRANCES

Sheet	Sta.	Loc.	Remarks
4	1064+00	Rt.	Standard - 203.32'
4	1064+00	Lt.	Standard - 203.32'
Pipe included with Conc. Culvert Pipe, Class III			

PAYED	DITCH
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Sheet	Sta.	Location	Dimen.	S. Y.	Remarks
4	1067113	27.5 - 29.5 ft.	3 X 2	.67	
4	1068105	27.5 - 29.5 ft.	3 X 2	.67	
4	1069100	27.5 - 29.5 ft.	3 X 2	.67	
6	1073150	28.5 - 29.5 ft.	2.5 X 1	.28	
6	1074160	28.5 - 29.5 ft.	2.5 X 1	.28	
8	1076114	28.5 - 29.5 ft.	2.5 X 1	.28	
8	1077216	28.5 - 29.5 ft.	2.5 X 1	.28	
10	1081180	27.5 - 29.5 ft.	3 X 2	.67	
16	1100122	25.5 - 27.5 ft.	2.5 X 4	1.11	
TOTAL				4.91	
USE				4.91	

Sheet 2 of 5

FINISH SURVEY	BY	DATE
LOTTED		
TEMPLATE		
AREA'S		
AREA'S CHECKED		

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

FINAL PLANS

Sheet 3 of 5

STATE MO.	JOB NO. 7-P-160-334	SHEET NO. 2B
DIST. NO. 7	PROJECT NO. 7-P-160-334	ROUTE 160
COUNTY BARTON		

PRECAST CONCRETE DROP INLETS															PRECAST CONCRETE DROP INLETS (Continued)																			
Sheet	Storm System	Sta.	Loc.	No. & Type	Size	Depth "D"	Pipe Opening	2'x2' Lin. Ft.	3'x2' Lin. Ft.	3'x2.5' Lin. Ft.	4'x2.5' Lin. Ft.	Frames & Covers Type 3 Each	Grates & Plates Type 3 Each	Cl. 3 Cu. Yd.	Remarks	Sheet	Storm System	Sta.	Loc.	No. & Type	Size	Depth "D"	Pipe Opening	2'x2' Lin. Ft.	3'x2' Lin. Ft.	3'x2.5' Lin. Ft.	4'x2.5' Lin. Ft.	Frames & Covers Type 3 Each	Grates & Plates Type 3 Each	Cl. 3 Cu. Yd.	Remarks			
4	1	065189	20.5' R	27-1D	2'x2'	1'-9"	1'-12"	2						190		16	2	10981691	26.2' L	1-1A	3'x2'	2'-0"	1'-15"							280	1	3		
4	1	065150	20.5' R	26-1D	2'x2'	1'-9"	1'-12"	2						190		16	5	10991370	26.2' L	1-1A	3'x2'	2'-3"	1'-12"	1'-18"						280	1	1		
4	1	1067113	24.5' R	1-16TM	5'x3'	6'-0"	2'-36"									16	5	1100122	23.5' L	1-2TM	3'x2.5'	4'-3"	3'-18"			4						Modified Type "T"		
4	1	1068165	24.5' R	1-15TM	5'x3'	6'-0"	2'-36"									16	5	1101132	20.5' L	1-3D	2'x2'	3'-6"	2'-18"							190			Modified Type "T"	
4	6	1169103	24.5' R	1-14TM	5'x3'	5'-9"	2'-36"									16	5	1101182	23.5' L	1-4T	5'x3'	5'-6"	2'-18"										Modified Type "T"	
6	1	1069162	20.5' R	25-1D	2'x2'	1'-9"	1'-12"	2						190		16	5	1102163	23.5' L	1-5T	5'x3'	5'-6"	2'-24"											
6	1	1070157	20.5' R	24-1D	2'x2'	1'-9"	1'-12"	2						190		16	5	1103148	23.5' L	1-6T	5'x3'	5'-3"	2'-24"											
6	1	1071150	20.5' R	23-1D	2'x2'	1'-9"	1'-12"	2						190		18	5	1104174	23.5' L	1-7T	5'x3'	4'-6"	2'-24"											
6	1	1072168	27.0' R	22-1A	3'x2'	1'-9"	1'-12"		2					280		18	5	1105161	23.5' L	1-8T	3'x2.5'	4'-3"	2'-24"				4							
6	1	1073152	26.5' R	21-1T	3'x2.5'	3'-3"	1'-12"			3						18	5	11061815	27' L	1-1A	3'x2'	1'-9"	1'-12"			2				280	1	5		
6	1	1074157	20.5' R	20-1D	2'x2'	1'-0"								190		18	7	1108155	23.5' L	1-3T	3'x2.5'	5'-6"	2'-24"											
6	1	1074168	26.5' R	19-1T	3'x2.5'	3'-3"	1'-12"									18	7	1108173	25' L	1-1S1	3'x2'	2'-3"	1'-12"									190		
8	1	1076114	26.5' R	18-1T	3'x2.5'	3'-3"	1'-12"									20	7	11101258	27' L	1-3-1A	3'x2'	1'-9"	1'-12"									280	1	4
8	1	1077105	26.5' R	17-1T	3'x2.5'	3'-3"	1'-12"									20	7	1111159.8	28.5' L	1-1A	3'x2'	1'-9"	1'-15"									280	1	9
8	1	1077110	20.5' R	16-1D	2'x2'	1'-0"																												
8	1	1078168	27.0' R	15-1A	3'x2'	1'-9"	1'-12"							280																				
8	1	1079127	26.5' R	14-1A	3'x2'	1'-9"	1'-12"							280																				
10	1	1081168	26.5' R	13-1A	3'x2'	1'-9"	1'-12"							280																				
10	1	1081130	27.5' R	13-1T	3'x2.5'	3'-0"	1'-12"				3																							
10	1	1082168	20.8' R	12-1A	3'x2'	1'-9"	2'-12"				2			280																				
10	1	1083109	20.5' R	11-1D	2'x2'	1'-9"	1'-12"	2						190																				
10	1	1083170	20.5' R	10-1D	2'x2'	1'-9"	1'-12"	2						190																				
10	1	1084165	20.5' R	9-1D	2'x2'	1'-9"	1'-12"	2						190																				
10	1	1085135	20.5' R	8-1D	2'x2'	1'-9"	1'-12"	2						190																				
10	1	1086107	20.5' R	7-1D	2'x2'	1'-9"	1'-12"	2						190																				
10	1	1086110	26.5' R	6-1D	2'x2'	1'-9"	1'-12"	2						190																				
12	1	1086187	20.5' R	5-1D	2'x2'	1'-9"	1'-12"	2						190																				
12	1	1087137	20.5' R	4-1D	2'x2'	2'-3"	1'-12"	2						190																				
12	1	1088117	20.5' R	3-1D	2'x2'	3'-0"	1'-12"	3						190																				
12	1	1088185	20.5' R	2-1D	2'x2'	3'-0"	1'-12"	3						190																				
12	1	1090172	26.5' R	1-7A	5'x2'	4'-9"	2'-24"							280																				
12	1	1091146	26.5' R	1-6A	5'x2'	4'-9"	2'-24"							280																				
14	1	1092170	26.5' R	1-5A	5'x2'	4'-6"	2'-24"							280																				
14	1	1094185	23.5' R	1-4T	3'x2.5'	5'-9"	2'-36"																											
14	1	1095149	20.5' R	1-3D	2'x2'	2'-9"	1'-12"							190																				
14	1	1096168	20.5' R	1-2D	2'x2'	2'-0"	2'-12"							190																				
14	1	1097115	20.5' R	1-1D	2'x2'	1'-9"	1'-12"							190																				
16	5	1100122	20.5' R	2-1D	2'x2'	2'-3"	1'-18"	2						190																				
16	5	1101182	26.5' R	3-1A	3'x2'	2'-3"	1'-18"							280																				

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

SUMMARY OF QUANTITIES

FINAL PLANS

Sheet 4 of 5

STATE MO.	JOB NO. 7-P-160-334	SHEET NO. 2B
DIST. NO. 7	PROJECT NO. 7-P-160-334	ROUTE 160
COUNTY BARTON		

REINFORCED CONCRETE PIPE CULVERTS CLASS III

REINFORCED CONCRETE PIPE CULVERTS CLASS III (Continued)

Flared End Section													Flared End Section																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Sheet	System	Et/Lt	From	To	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	30"	36"	12"	15"	18"	24"	

SUMMARY OF QUANTITIES

FINAL PLANS

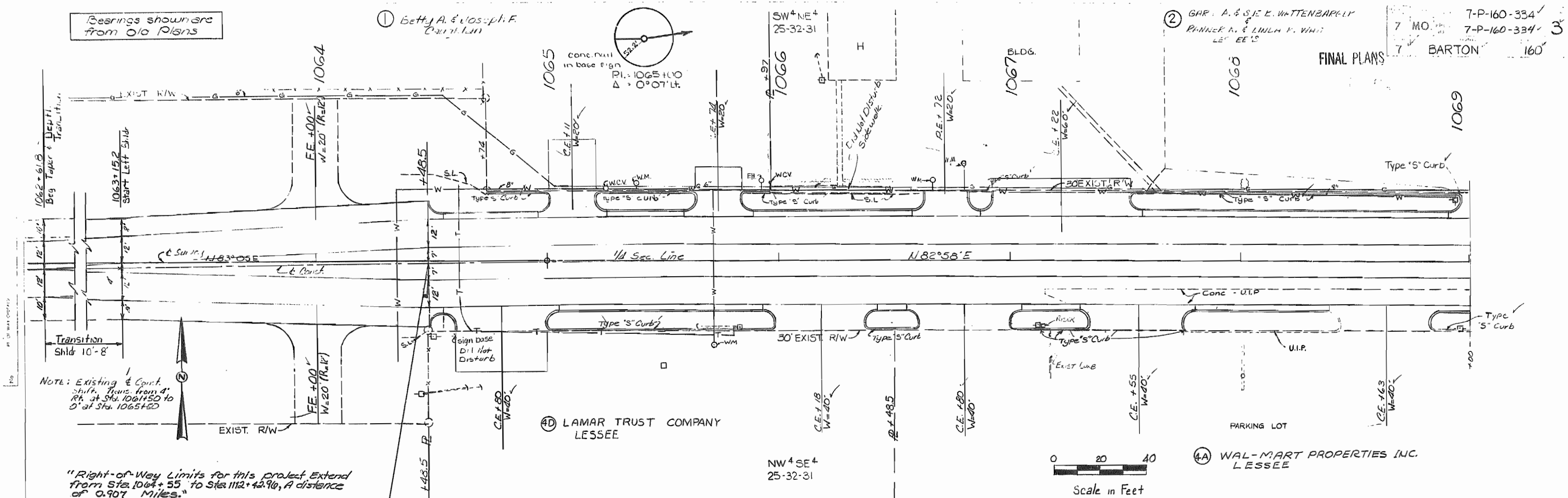
STATE MO.	JOB NO. 7-P-160-334	SHEET NO. 2B
DIST. NO. 7	PROJECT NO. 7-P-160-334	ROUTE 160
COUNTY BARTON		

SHEET 5 OF 5

SIGN	SIZE (INS)	AREA (SQ FT)	QTY	TOTAL AREA (SQ FT)	QTY. RELOC.	TOTAL RELOC. AREA (SQ FT)	DESCRIPTION
WARNING SIGNS							
WO1-1Lb	48x48	16.0					TURN (SYMBOL LEFT ARROW)
WO1-1Rb	48x48	16.0					TURN (SYMBOL RIGHT ARROW)
WO1-2Lb	48x48	16.0					CURVE (SYMBOL LEFT ARROW)
WO1-2Rb	48x48	16.0					CURVE (SYMBOL RIGHT ARROW)
WO1-3Lb	48x48	16.0					REVERSE TURN (SYMBOL LEFT ARROW)
WO1-3Rb	48x48	16.0					REVERSE TURN (SYMBOL RIGHT ARROW)
WO1-4Lb	48x48	16.0					REVERSE CURVE (SYMBOL LEFT ARROW)
WO1-4Lb2	48x48	16.0					DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT ARROWS)
WO1-4Rb	48x48	16.0					REVERSE CURVE (SYMBOL RIGHT ARROW)
WO1-4Rb2	48x48	16.0					DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT ARROWS)
WO1-6	48x24	8.0					HORIZONTAL ARROW (SYMBOL)
WO1-6a	72x36	18.0					HORIZONTAL ARROW (SYMBOL)
WO1-7	48x24	8.0					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72x36	18.0					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-8	18x24	3.0					CHEVRON (SYMBOL)
WO3-1b	48x48	16.0					STOP AHEAD
WO3-2b	48x48	16.0					YIELD AHEAD
WO3-3b	48x48	16.0					SIGNAL AHEAD (SYMBOL)
WO3-4b	48x48	16.0					BE PREPARED TO STOP
WO4-1Lb	48x48	16.0					MERGE (SYMBOL FROM LEFT)
WO4-1Rb	48x48	16.0					MERGE (SYMBOL FROM RIGHT)
WO5-1a	48x48	16.0					ROAD NARROWS
WO5-3a	48x48	16.0					ONE LANE BRIDGE
WO6-1b	48x48	16.0					DIVIDED HIGHWAY
WO6-2b	48x48	16.0					DIVIDED HIGHWAY ENDS
WO6-3b	48x48	16.0					TWO WAY TRAFFIC (SYMBOL)
WO6-3x	24x18	3.0					TWO WAY TRAFFIC (PLAQUE)
WO8-1b	48x48	16.0					BUMP
WO8-2b	48x48	16.0					DIP
WO8-3	48x48	16.0					PAVEMENT ENDS
WO8-4b	48x48	16.0					SOFT SHOULDER
WO8-5b	48x48	16.0					SLIPPERY WHEN WET (SYMBOL)
WO8-6b	48x48	16.0					TRUCK CROSSING
WO8-6c	48x48	16.0					TRUCK ENT. (Includes 1000 FT./1500 FT. plate WO25-1a)
WO8-7a	36x36	9.0					LOOSE GRAVEL
WO8-9	48x48	16.0					LOW SHOULDER
WO8-9La	48x48	16.0					UNEVEN PAVEMENT (SYMBOL LEFT DROPOFF)
WO8-9Ra	48x48	16.0					UNEVEN PAVEMENT (SYMBOL FOR RIGHT DROPOFF)
WO9-1R	48x48	16.0					RIGHT LANE ENDS (Includes LEFT/CENTER plate WO25-3c)
WO9-2Ra	48x48	16.0					LANE ENDS MERGE RIGHT (Includes LEFT plate WO25-3b)
W10-1a	42 Dia.	9.6					RAILROAD CROSSING
WO12-1	24x24	4.0					DOUBLE DOWN ARROW (SYMBOL)
WO12-2a	48x48	16.0					LOW CLEARANCE (SYMBOL)
WO12-2x	24x18	3.0					LOW CLEARANCE (PLAQUE)
WO12-3a,b	144x24	24.0					OVERHEAD LOW CLEARANCE (FEET AND INCHES)
WO13-1a	24x24	4.0					ADVISORY SPEED (PLAQUE)
WO20-1	48x48	16.0					ROAD CONST. AHEAD (Incl. RAMP/BIDGE plate WO25-6)
WO20-2	48x48	16.0					DETOUR AHEAD (Includes 500 FT./1000 FT. plate WO25-1b)
WO20-3	48x48	16.0					RD. CLOSED AHEAD (Incl. 500 FT./1000 FT. plate WO25-1c)
WO20-4a	48x48	16.0					ONE LN. RD. AHD (Incl. 1000 FT./1500 FT. plate WO25-1a)
WO20-5	48x48	16.0					RT. LN. CLOSED AHEAD (Incl. LEFT/CENTER plate WO25-3d)
WO20-6a	48x48	16.0					RIGHT LANE CLOSED (Incl. LEFT/CENTER plate WO25-3c)
WO20-7a	48x48	16.0					FLAGMAN AHEAD (Incl. 500 FT./1000 FT. plate WO25-1b)
WO20-8	36x18	4.5					WORKERS AHEAD
WO20-9c	48x48	16.0					OPEN TRENCH
WO21-2b	48x48	16.0					FRESH OIL
WO21-5b	48x48	16.0					SHOULDER WORK AHEAD
WO21-7	36x36	9.0					SAND BLASTING
WO22-1	48x48	16.0					BLASTING ZONE 1000 FT.
WO22-2	42x36	10.5					TURN OFF 2-WAY RADIO
WO22-3	42x36	10.5					END BLASTING ZONE
WO25-1a	26x9						1000 FT./1500 FT. Plate
WO25-1b	38x9						500 FT./1000 FT. Plate
WO25-1c	34x9						500 FT./1000 FT. Plate
WO25-3b	30x9						LEFT Plate
WO25-3c	33x9						LEFT/CENTER Plate

SIGN	SIZE (INS)	AREA (SQ FT)	QTY	TOTAL AREA (SQ FT)	QTY. RELOC.	TOTAL RELOC. AREA (SQ FT)	DESCRIPTION
WO25-3d	22x9						LEFT/CENTER Plate
WO25-5	30x12	2.5					1/2 MILE/1 MILE (PLAQUE)
WO25-6	28x9						RAMP/BIDGE Plate
REGULATORY SIGNS							
R1-1b	48x48	13.25					STOP
R1-2a	48x48x48	6.93					YIELD
R1-3	20x9	1.25					4-WAY (PLAQUE)
R1-5	20x9	1.25					3-WAY (PLAQUE)
R2-1b	36x48	12.0					SPEED LIMIT XX 4 at 20 2 at 30
R2-5	36x48	12.0					REDUCED SPEED AHEAD
R3-1b	36x48	12.0					NO RIGHT TURN
R3-2b	36x48	12.0					NO LEFT TURN
R3-3a	36x36	9.0					NO TURNS
R3-4b	36x48	12.0					NO U-TURN
R3-7L	30x30	6.25					LEFT LANE MUST TURN LEFT
R3-7R	30x30	6.25					RIGHT LANE MUST TURN RIGHT
R4-1b	36x48	12.0					DO NOT PASS
R4-2b	36x48	12.0					PASS WITH CARE
R4-7Lb	36x48	12.0					KEEP LEFT (HORIZONTAL ARROW)
R4-7Rb	36x48	12.0					KEEP RIGHT (HORIZONTAL ARROW)
R4-17L	36x36	9.0					KEEP LEFT
R4-17R	36x36	9.0					KEEP RIGHT
R5-1	30x30	6.25					DO NOT ENTER
R5-1a	36x24	6.0					WRONG WAY
R6-1La	48x18	6.0					ONE WAY ARROW (LEFT)
R6-1Ra	48x18	6.0					ONE WAY ARROW (RIGHT)
R6-2La	24x30	5.0					ONE WAY (LEFT)
R6-2Ra	24x30	5.0					ONE WAY (RIGHT)
R11-2	48x30	10.0					ROAD CLOSED
R11-3	60x30	12.5					ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60x30	12.5					ROAD CLOSED TO THRU TRAFFIC
R12-3b	36x36	9.0					TO ONCOMING TRAFFIC (PLAQUE)
R20-1	36x18	4.5					WHEN FLASHING
GUIDE SIGNS							
GO20-1	60x36	15.0					ROAD CONSTRUCTION NEXT XX MILES
GO20-2	60x24	10.0					END CONSTRUCTION
MO4-8a	30x15	3.13					DETOUR (PLAQUE)
MO4-9L	48x36	12.0					DETOUR (LEFT ARROW)
MO4-9R	48x36	12.0					DETOUR (RIGHT ARROW)
MO4-10L	48x18	6.0					DETOUR (ARROW LEFT)
MO4-10R	48x18	6.0					DETOUR (ARROW RIGHT)
MO4-11	24x18	3.0					DETOUR ENDS
M5-1L	21x15	2.19					ADVANCE LEFT TURN ARROW
M5-1R	21x15	2.19					ADVANCE RIGHT TURN ARROW
MISCELLANEOUS SIGNS							
616-10.05 CONSTRUCTION SIGNS TOTAL 588							
616-10.10 RELOCATED SIGNS TOTAL							

ITEM NO.	SIZE (INS)	TOTAL QTY.	DESCRIPTION
616-10.20	36x18	225	CHANNELIZER (DRUM)
616-10.35	8x24		TYPE I BARRICADE (One Rail)
616-10.36	8x24		TYPE II BARRICADE (Two Rail)
616-10.40	36x72		FLASHING ARROW PANEL
616-10.45	18x18		TYPE I OBJECT MARKER
616-10.46	6x12		TYPE II OBJECT MARKER
616-10.47	8x24		TYPE III OBJECT MARKER
616-10.50	8		FLASHING ELECTRIC LIGHT
616-10.51	---		WARNING LIGHT TYPE A
616-10.52	---		WARNING LIGHT TYPE B
616-10.53	---		WARNING LIGHT TYPE C
616-10.54	---		STROBE LIGHT
616-10.60	---		RAISED PAVEMENT MARKER
616-10.70	28		FLEXIBLE DELINEATOR
612-10.30	72x144		MOVABLE BARRICADE (Three Rails)

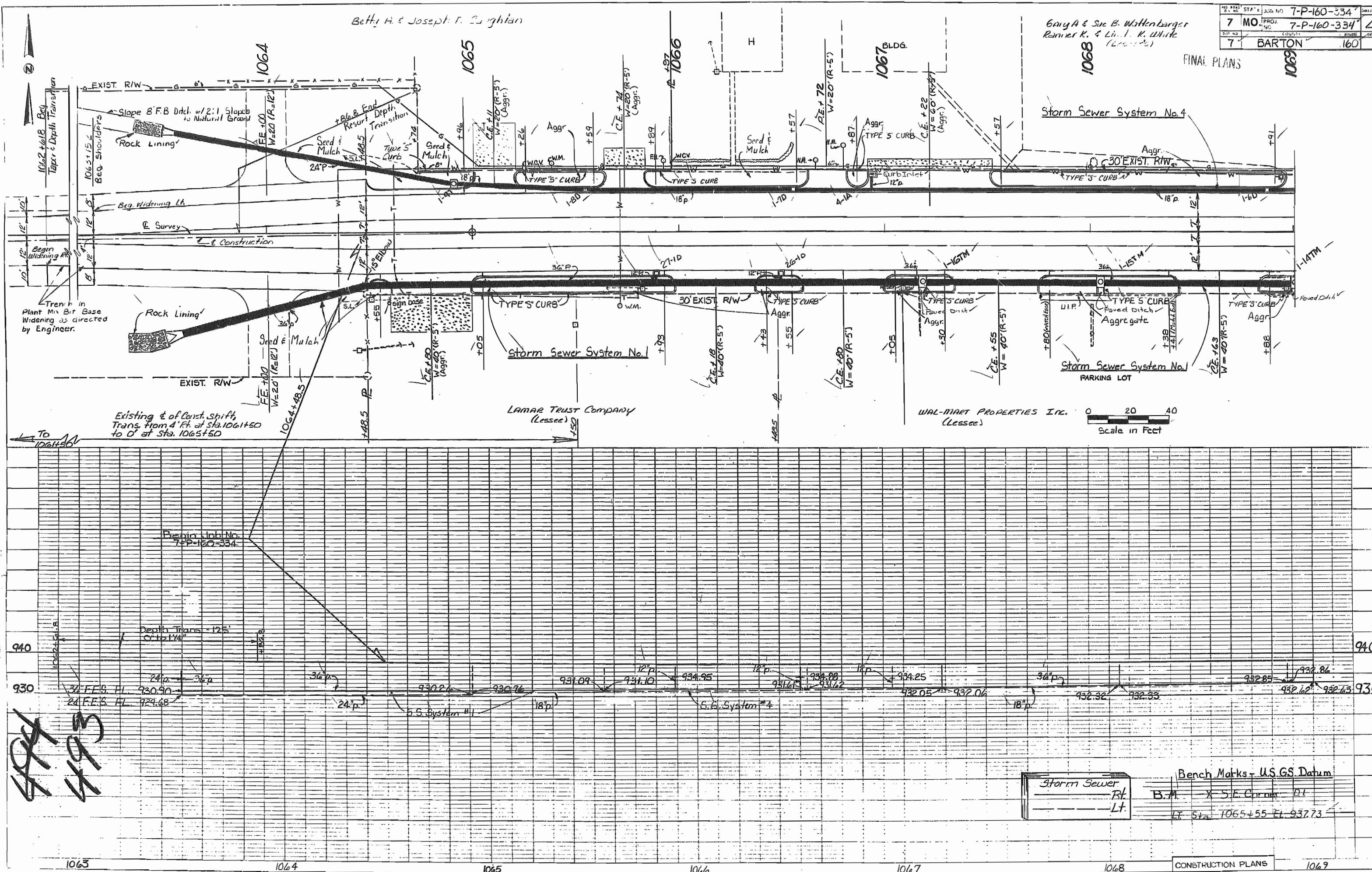


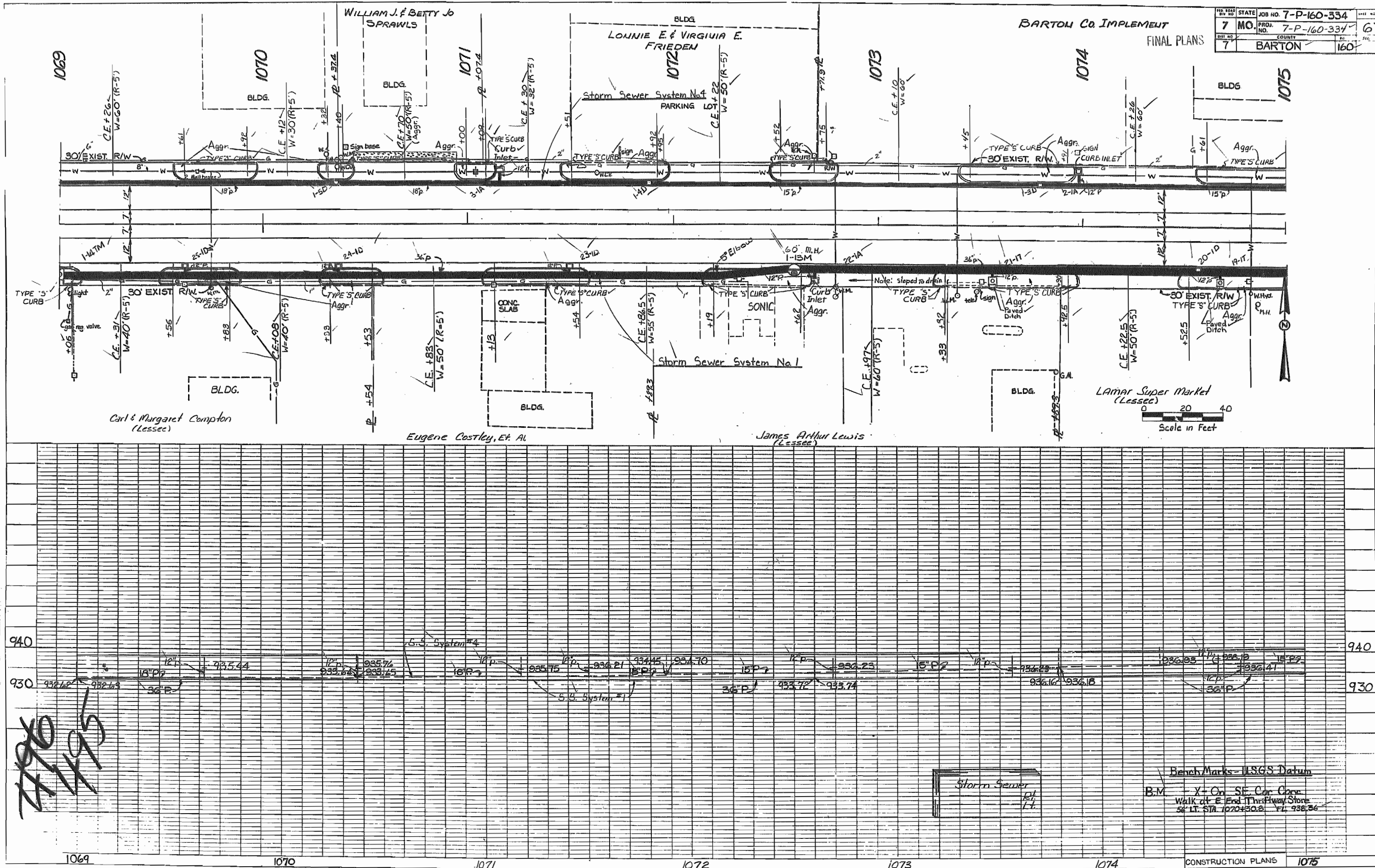
Improvement Begins at a Point
Approximately 2.6933 S and
2.0948 W west of the N Cor. of
Sections 19 & 30 T32N R30W
All work back of this point is
incidental to project.

<u>UTILITY</u>		<u>OWNERSHIPS</u>
Electric Co. ---	---	City of Lamar
Lamar, Mo. 64759 ---	---	417-682-5554
Water Co. ---	---	City of Lamar
Lamar, Mo. 64759 ---	---	417-682-5554
KPL Gas Service ---	---	PO Box 1927
Opolish, Mo. 64802-460 ---	---	417-623-7700
Southwestern Bell ---	---	301 South Jefferson
Springfield, Mo. 65806 ---	---	417-836-2511
Sanitary Sewer ---	---	City of Lamar
Lamar, Mo. 64759 ---	---	417-682-5554
Southwest Missouri Cable TV ---	---	231 E 4th St
Carthage Mo. 64836 ---	---	417-358-3002

Bench Marks - U.S.G.S Datum
B.M. - X - SE Corner D.I. Lt.
Sta 106 + 55 EL 957.73

RIGHT OF WAY
UTILITY & REMOVAL PLANS.





STATE	JOB NO.	7-P-160-334	DATE	7/95
MO.	PROJ. NO.	7-P-160-334		
COUNTY		BARTON		
		160		

FINAL PLANS

BARTON Co. IMPLEMENT

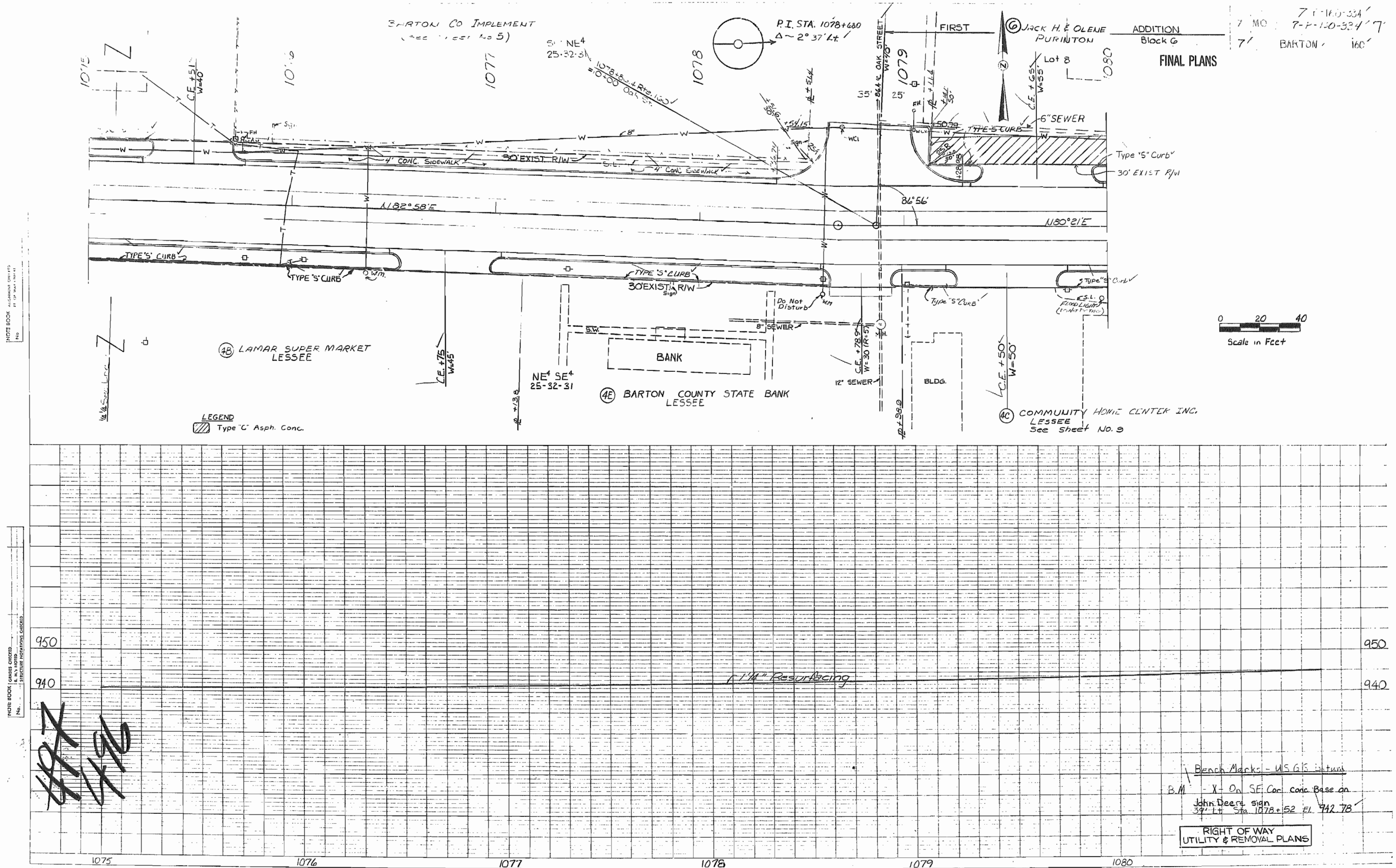
Bench Marks - USGS Datum

B.M. - X - On SE. Cor. Corner
Walk at E. End of Highway Store
54 LT. STA. 1070+30.2 - EL. 938.36

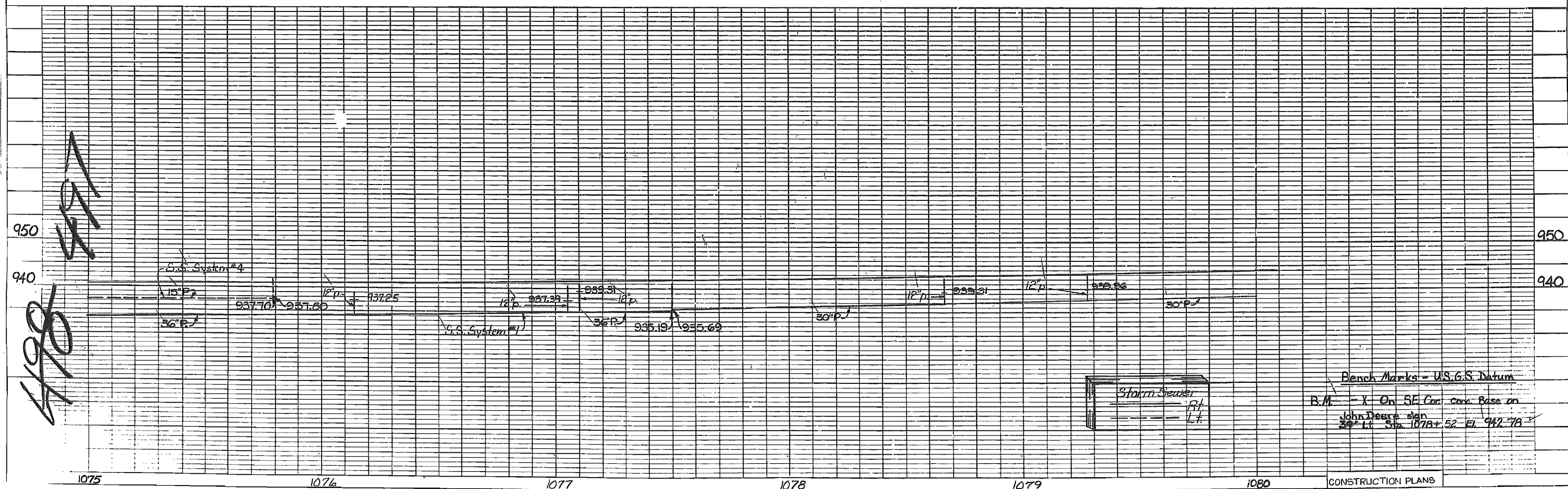
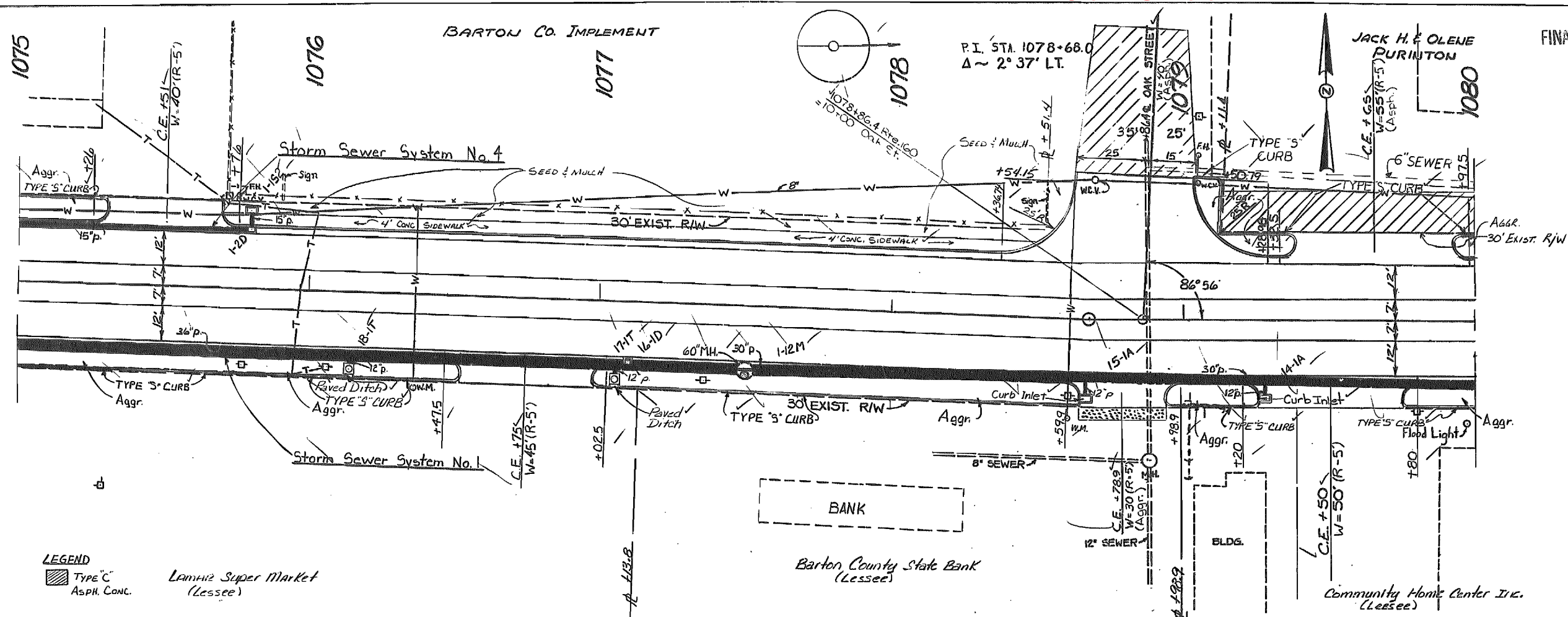
Storm Sewer
1/1
1/1

7/95

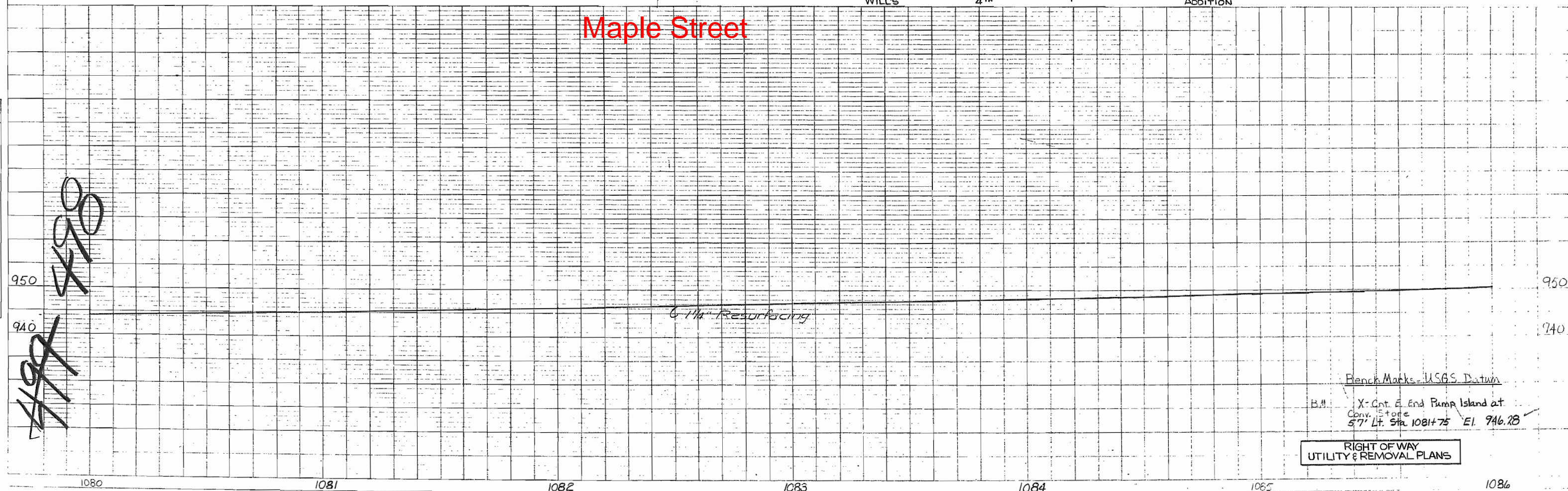
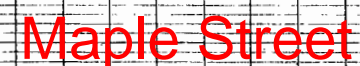
Oak Street



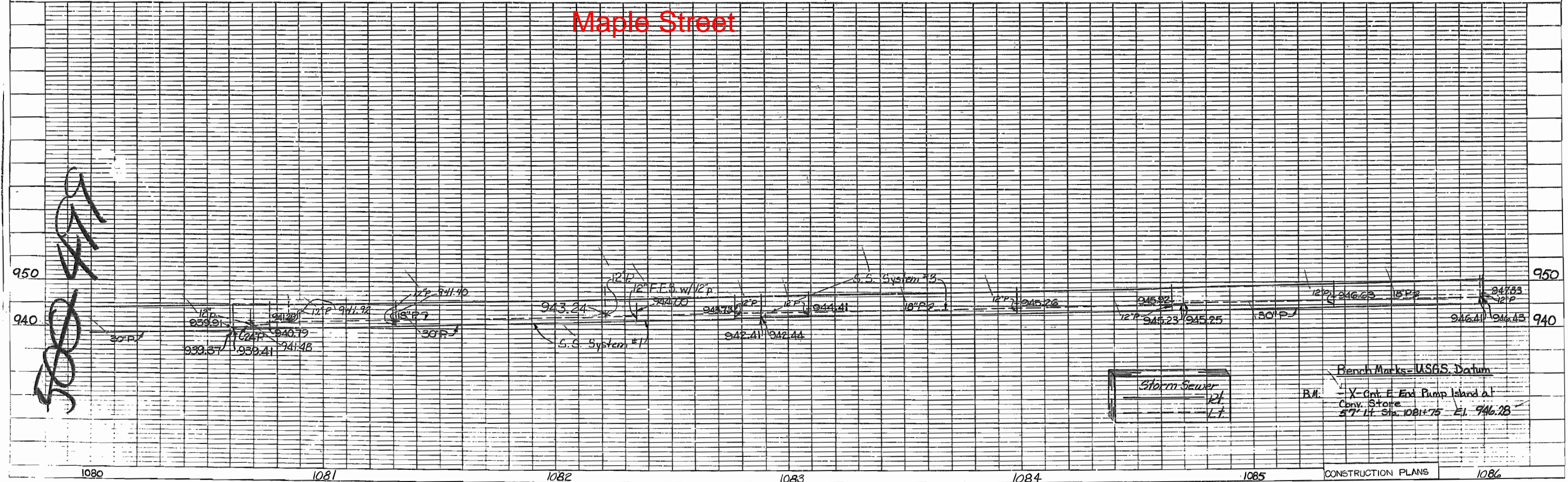
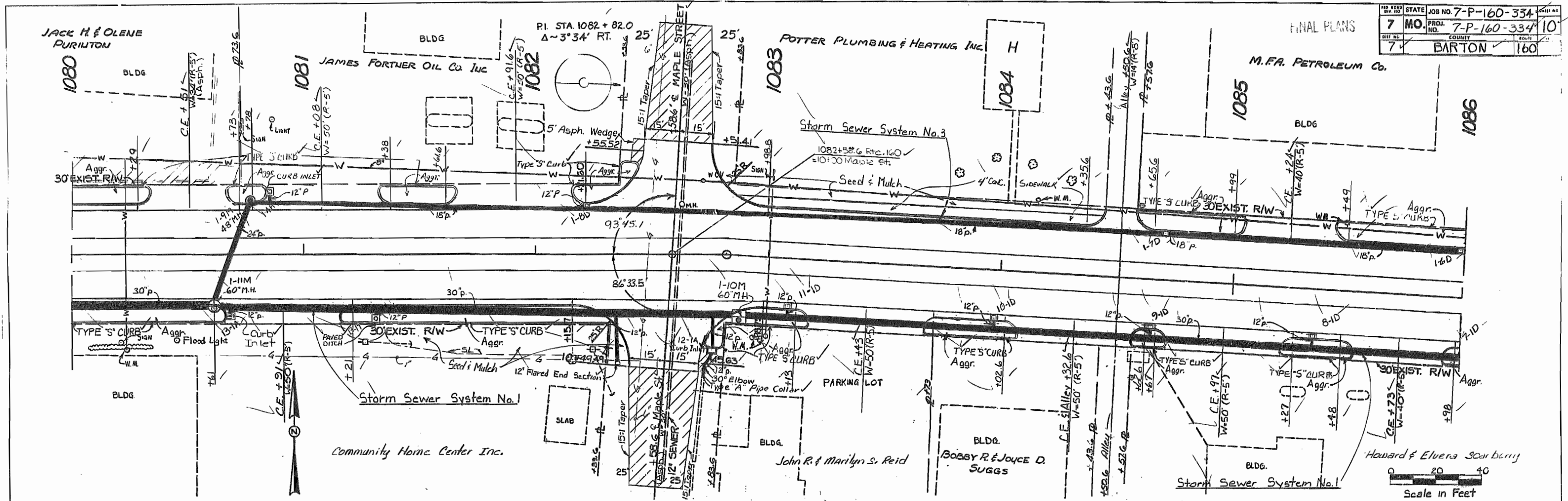
Oak Street



FIRST ADDITION



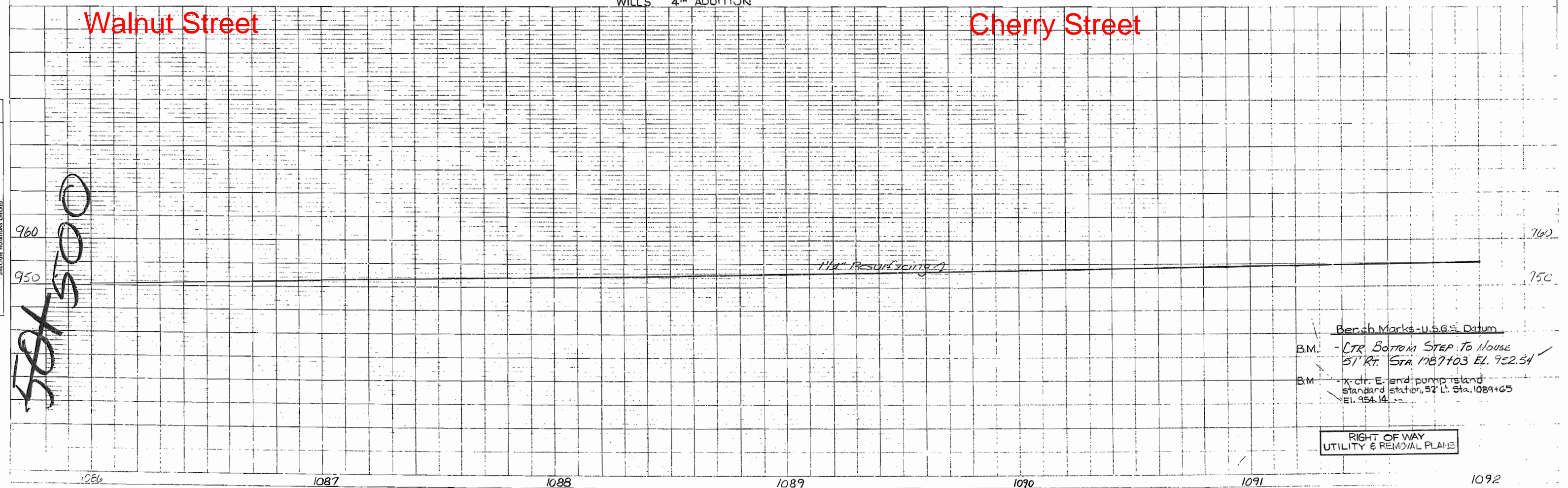
Maple Street



Cherry Street

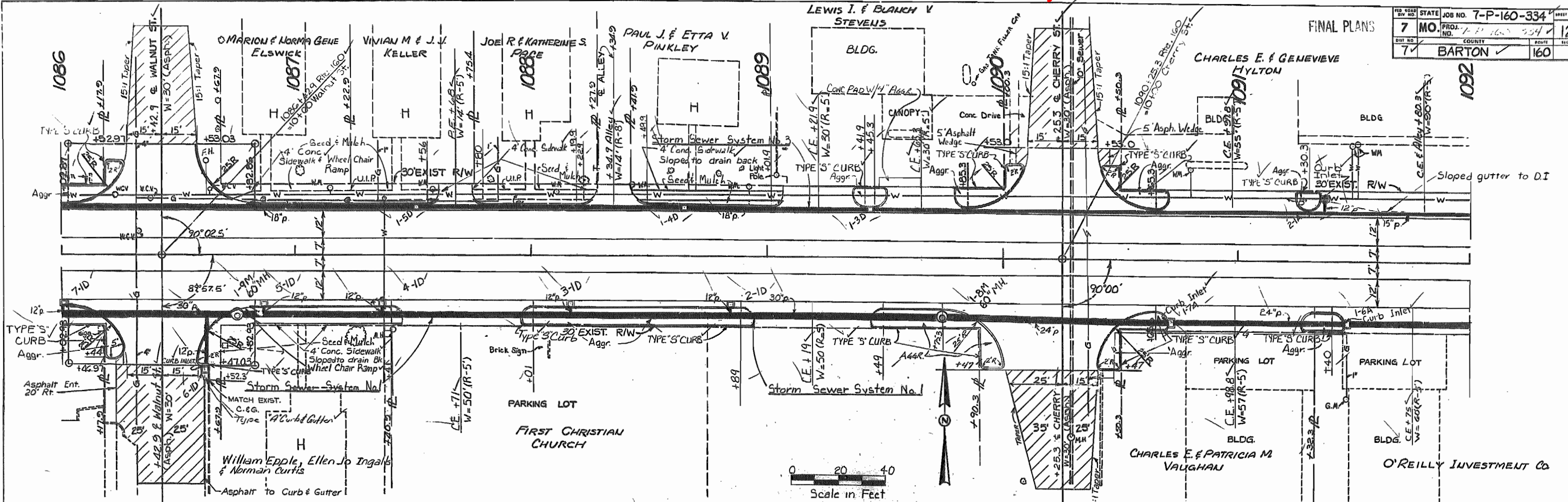


Cherry Street



Walnut Street

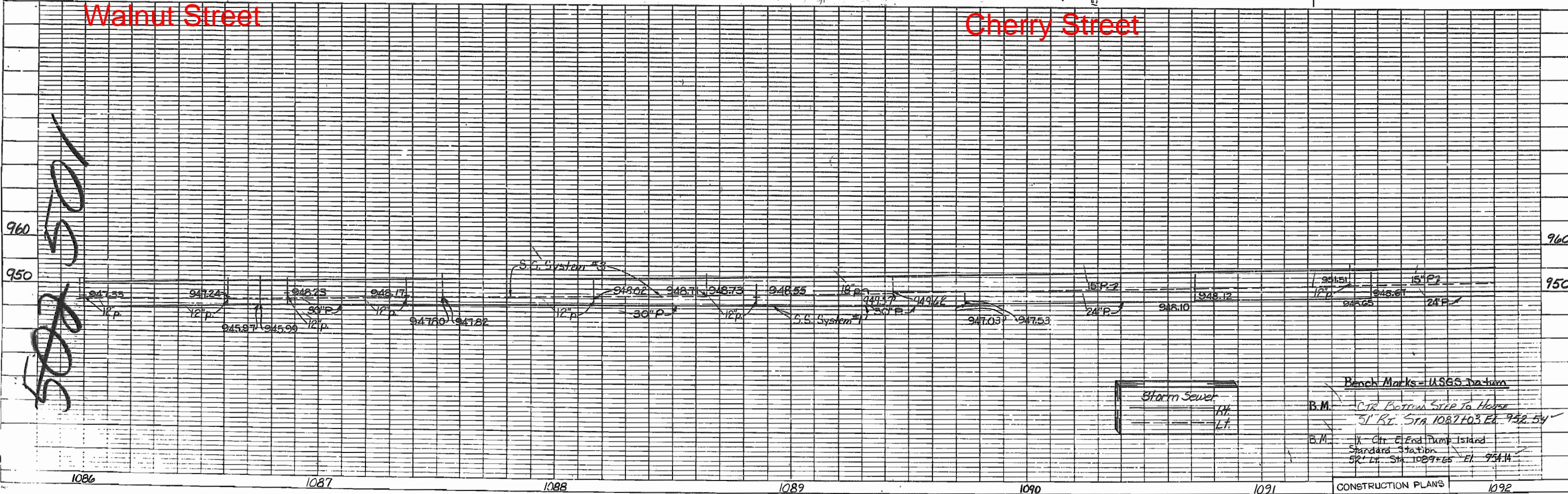
Cherry Street



JOB NO.	7-P-160-334	SHEET NO.	12
STATE	MO.	PROJ. NO.	1-1-16-5
COUNTY	BARTON	FOOT	160

Walnut Street

Cherry Street



Bench Marks - USGS datum
B.M. - CTR. BOTTOM STEP TO HOUSE
51' RT. STA. 1087+03 EL. 952.54
B.M. - X Ctr. E. End Pump Island
Standard Station
52' RT. STA. 1089+65 EL. 954.14

ORIGINAL TOWN OF LAMAR



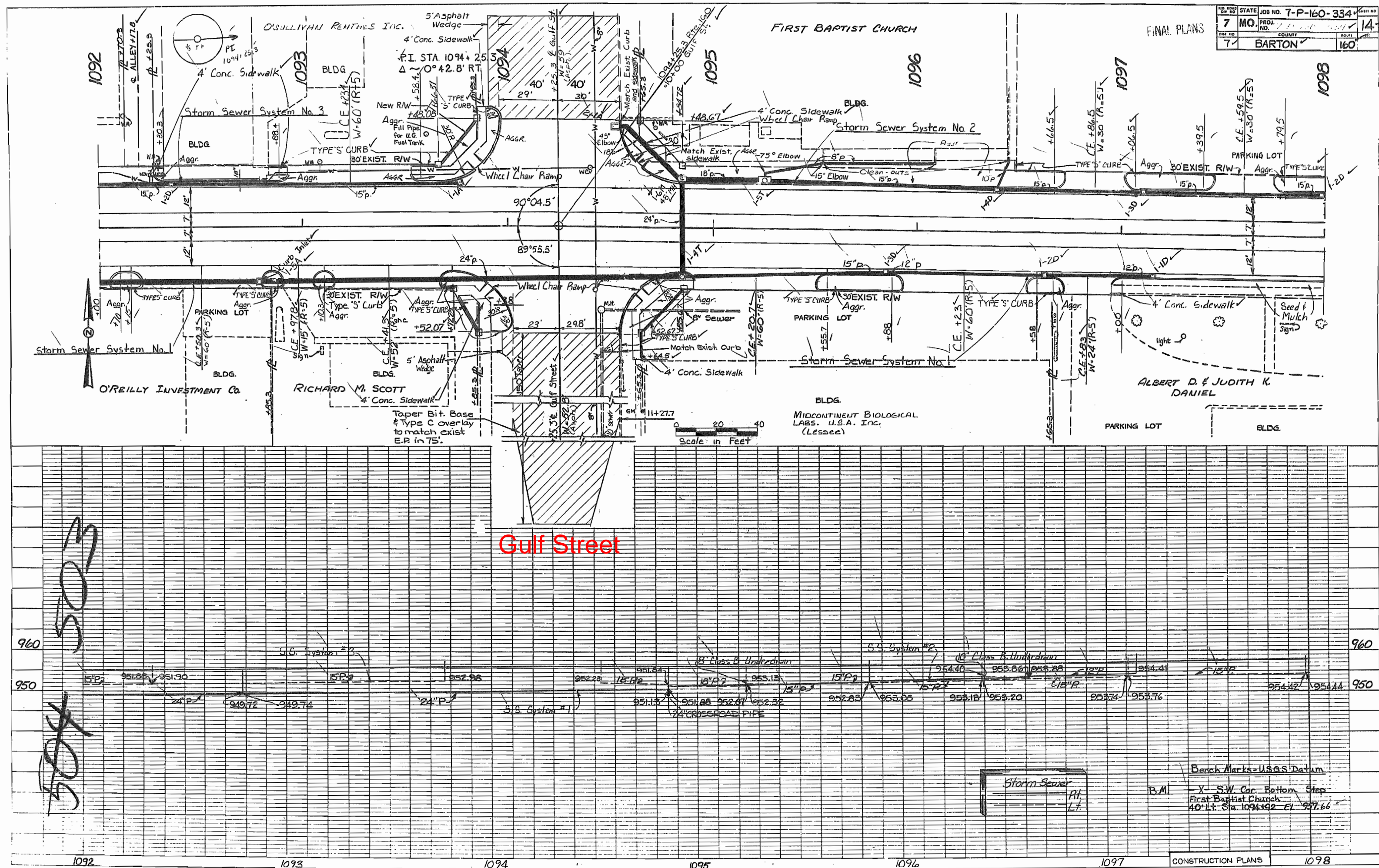
7 MO 7-P-160-334 ✓
7-P-160-334 ✓ 13 ✓
7 ✓ BARTON ✓ 160 ✓

Gulf Street



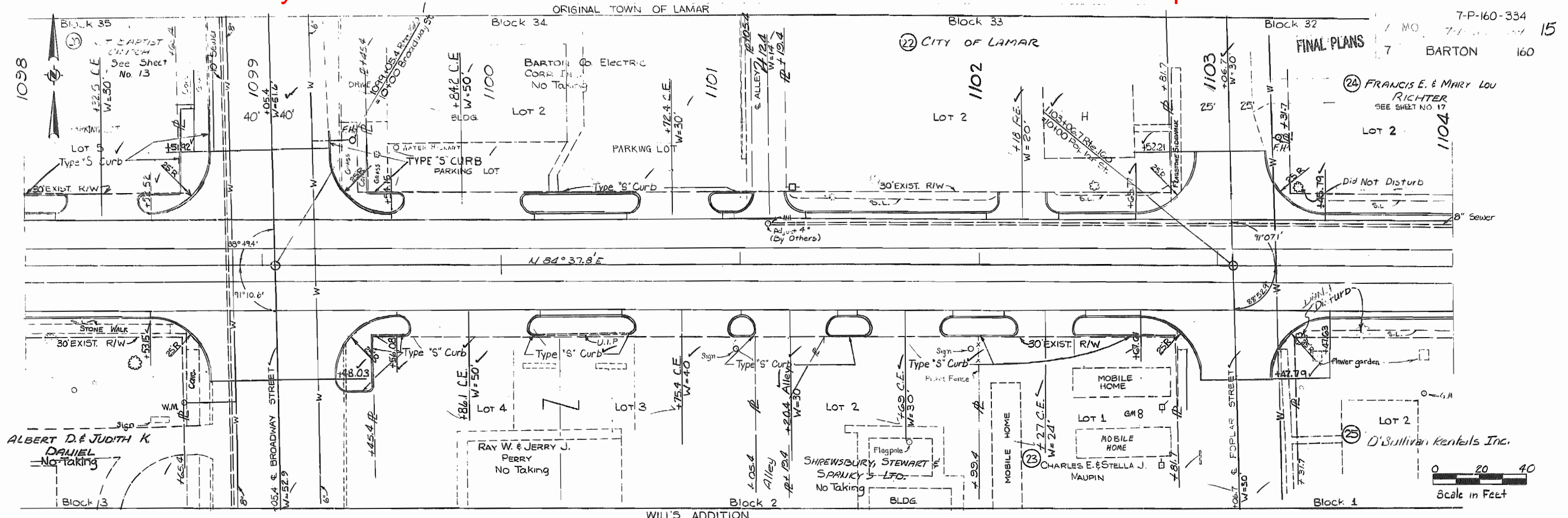
	Bench Mark - U.S.G.S Datum
B.M.	- X - S.W. Cor. Highway Stop. First Baptist Church 40' Lt. Sta. 1094+92 El. 957.66

Gulf Street



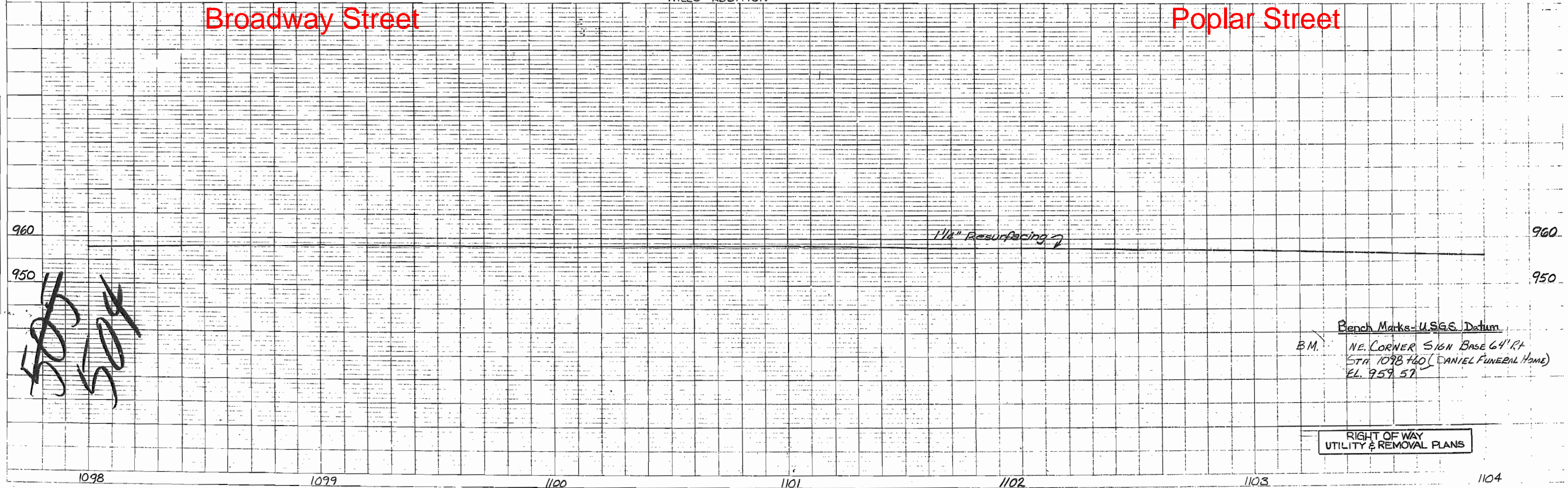
Broadway Street

Poplar Street



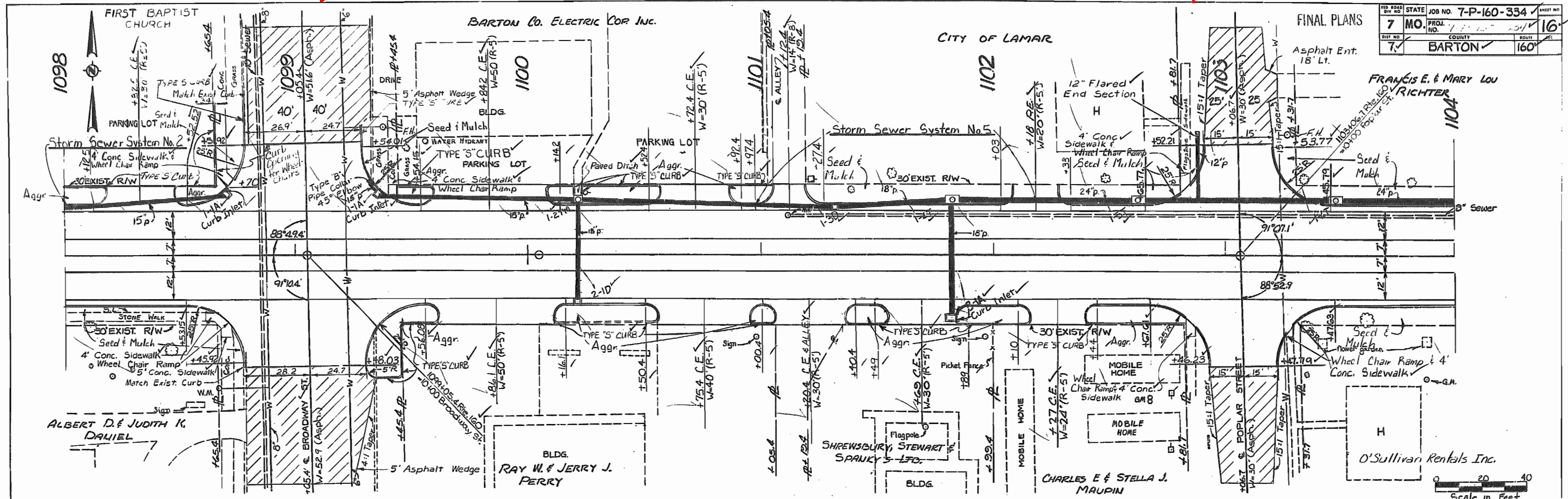
Broadway Street

Poplar Street



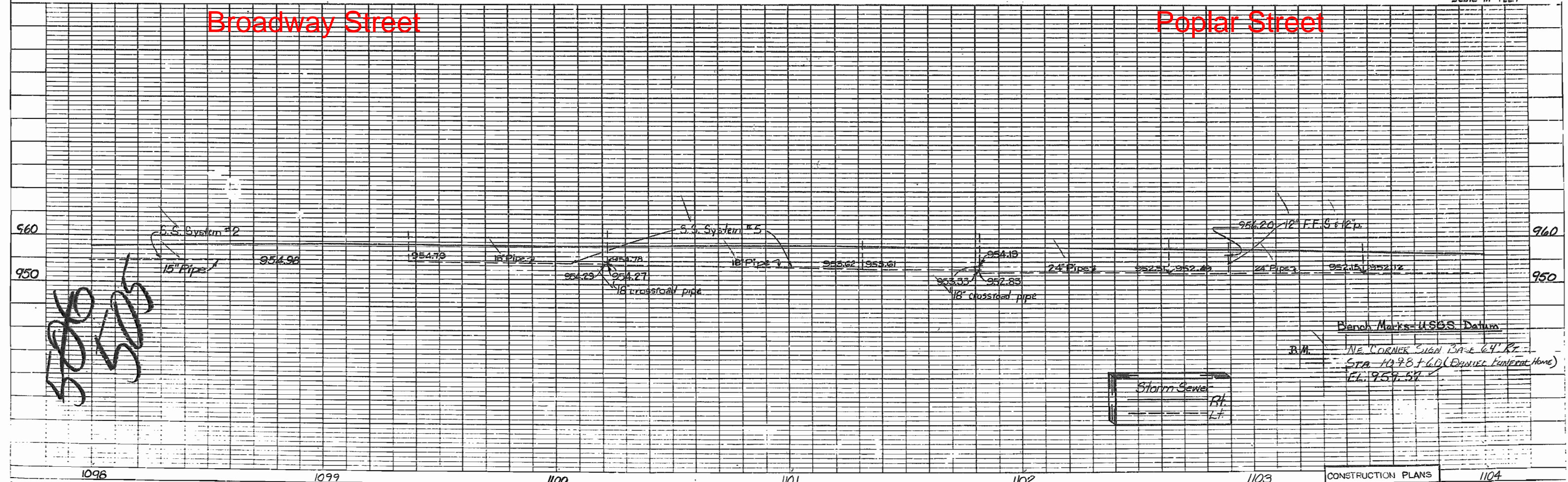
Broadway Street

Poplar Street

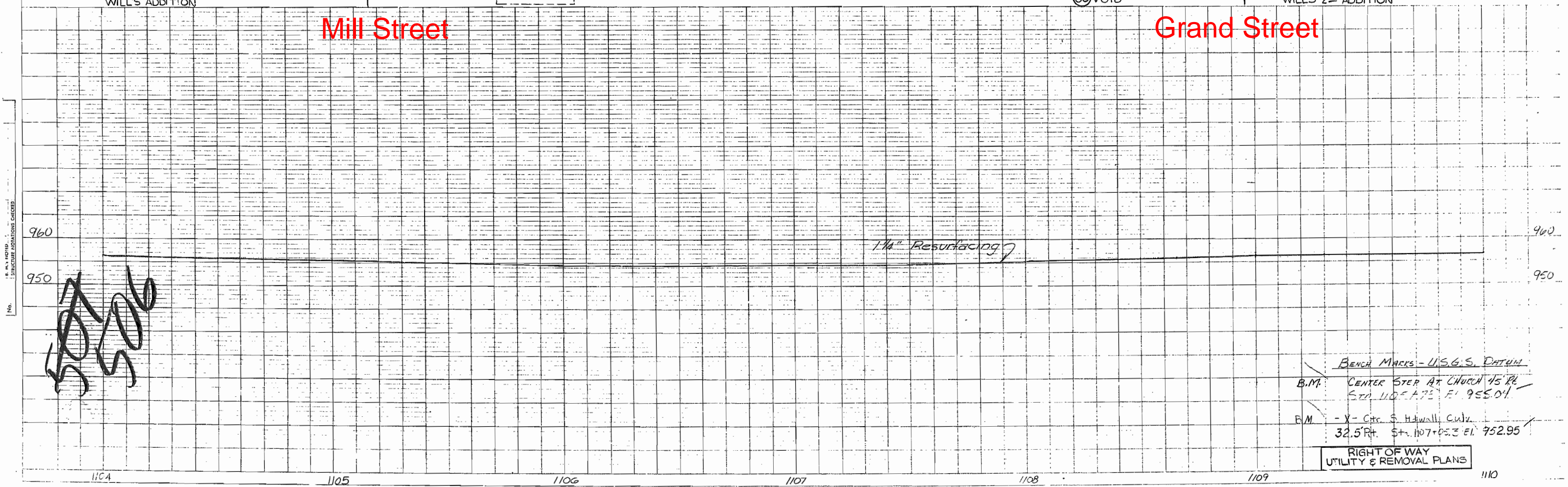


Broadway Street

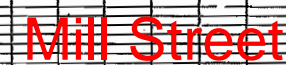
Poplar Street



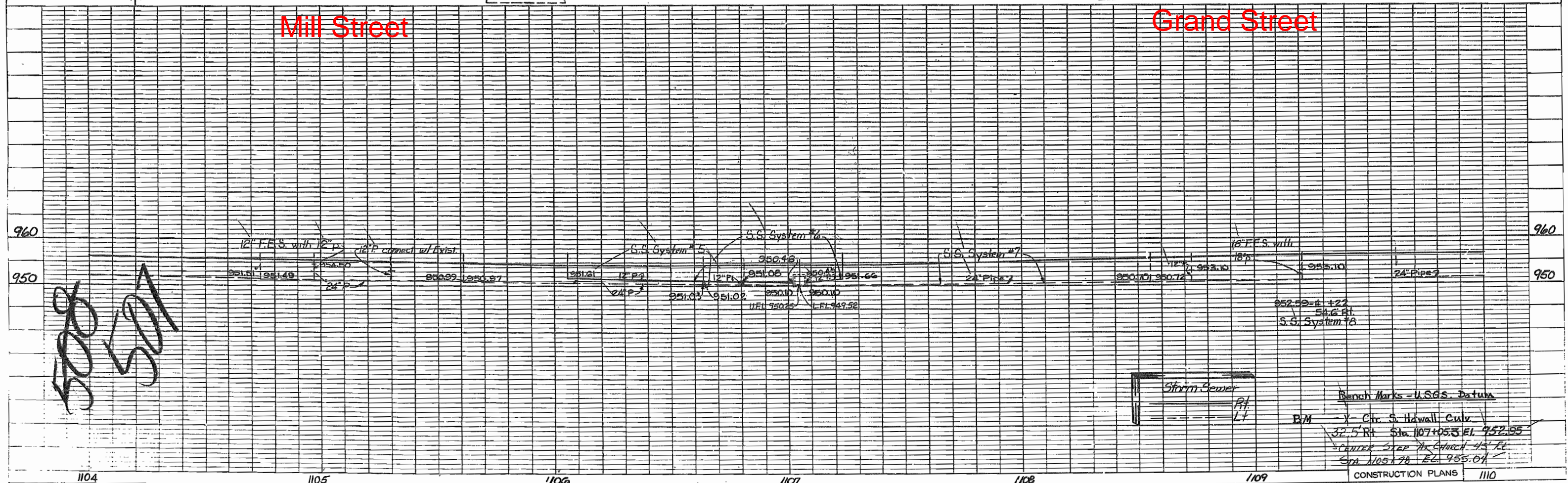
Grand Street



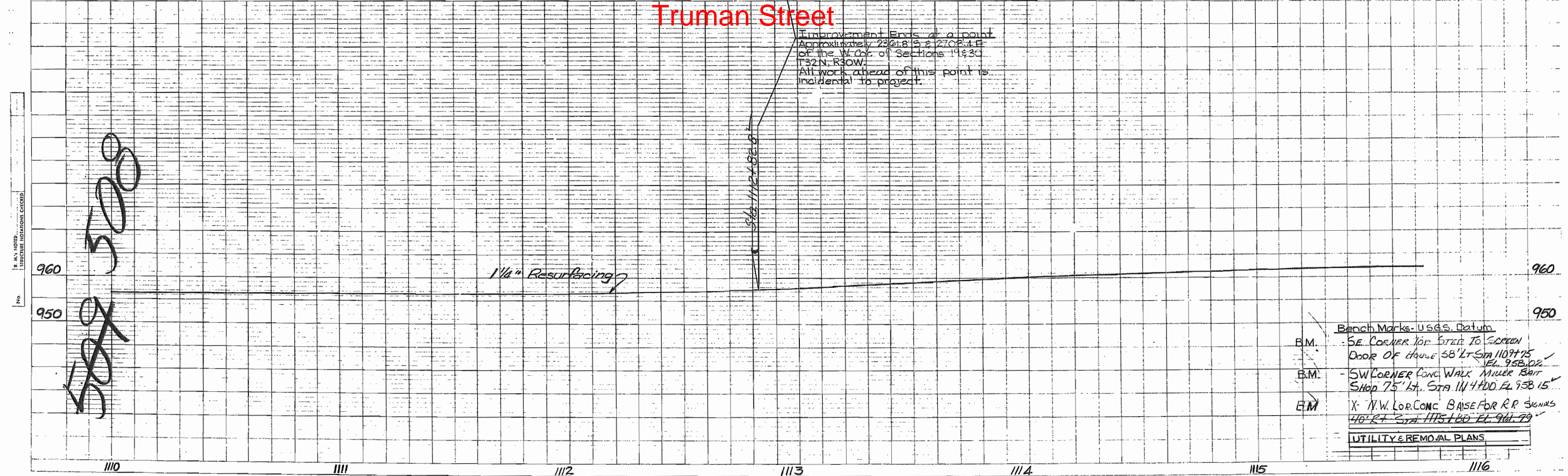
Grand Street



Grand Street



Truman Street

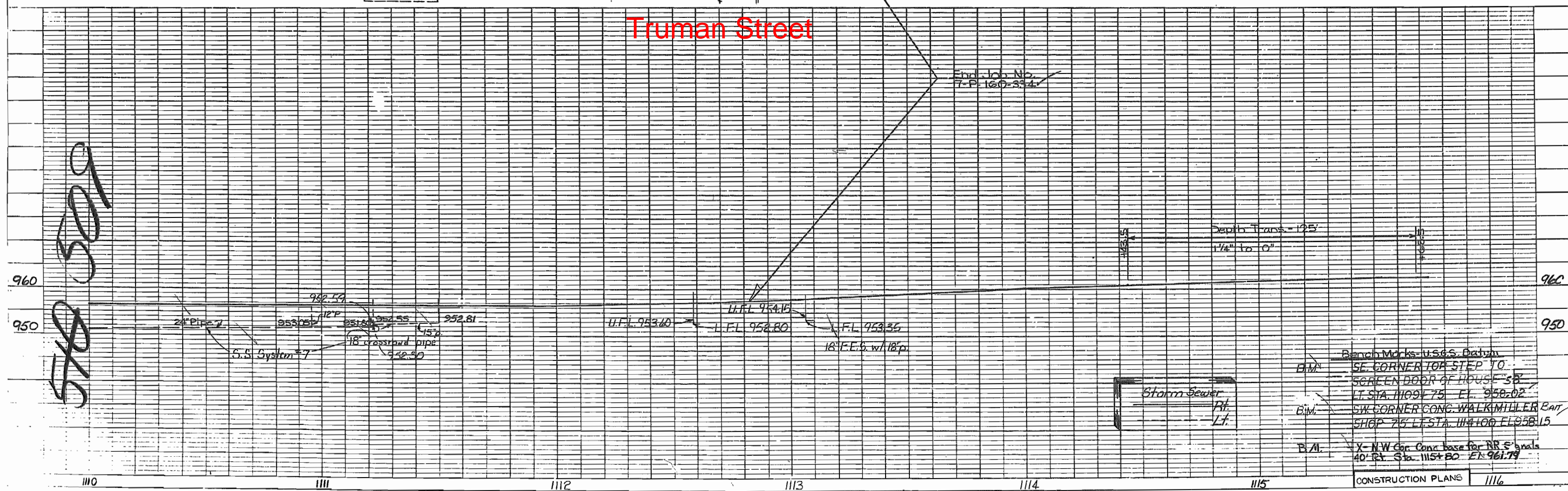


Bench Marks - USGS Datum

- SE CORNER FOR SITE TO SCREEN
DOOR OF HOUSE 38' LT STA 1107+75
EL. 958.02 ✓
- SW CORNER CONC. WALK MILLER BRIT
SHOP 75' LT. STA 1114+00 EL. 958.15 ✓
- X - N.W. COR. CONC. BASE FOR RR SIGNALS
40' RT STA 1115+00 EL. 961.79 ✓

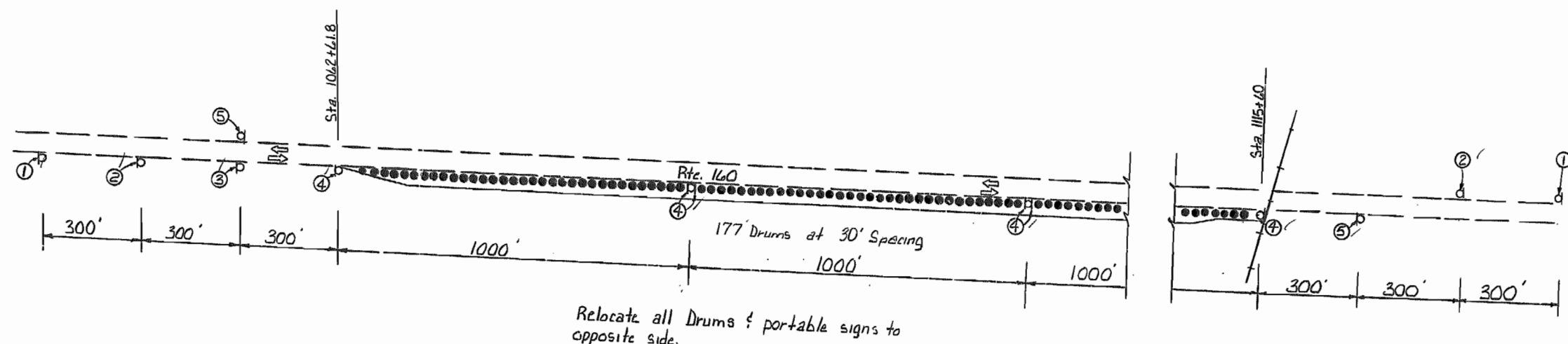
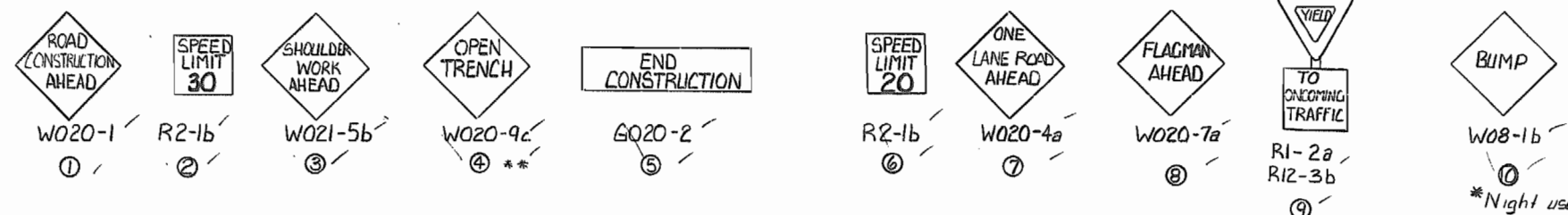
UTILITY & REMOVAL PLANS

Truman Street

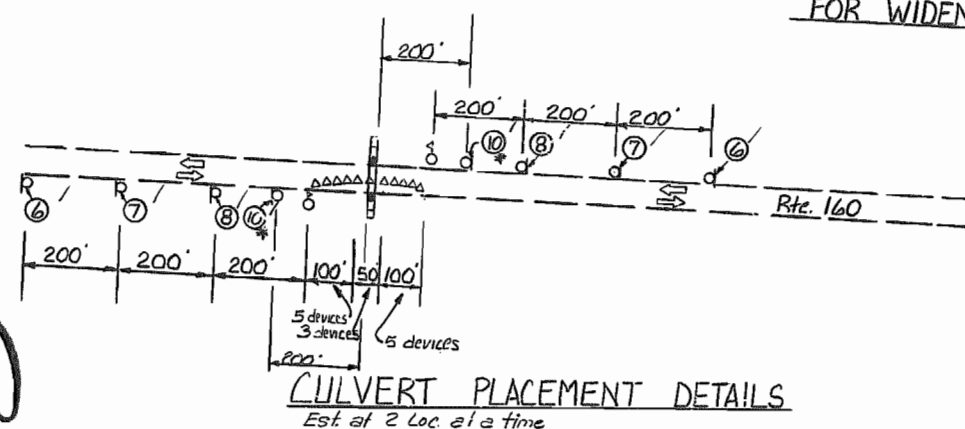


FINAL PLANS

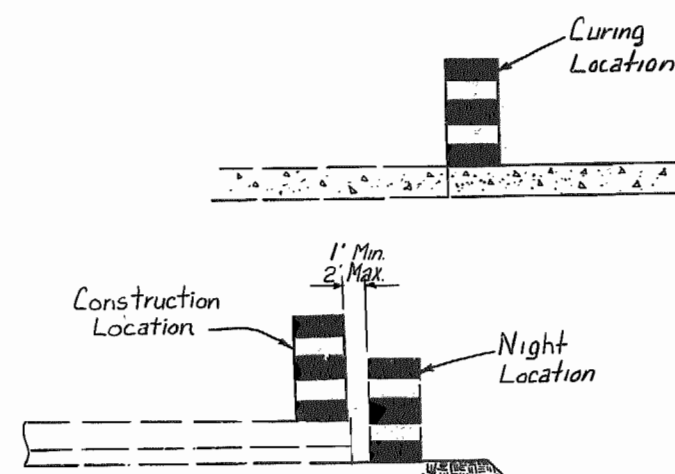
STATE NO.	JOB NO. 7-P-160-334	SHEET NO. 21
DIST. NO. 7	PROJECT NO. 7-P-160-334	ROUTE 160
	COUNTY BARTON	



TYPICAL TRAFFIC CONTROL PLAN
FOR WIDENING



CULVERT PLACEMENT DETAILS



TYPICAL DRUM LOCATION

General Notes

All existing signs in conflict with traffic control shall be covered with opaque covers or removed. Construction (including side roads) involving OPEN TRENCH is limited to one side of MAIN LINE at a time.

Cover (with opaque covers) or remove signs when not in use.

Drums shall be placed off the pavement when work is not in progress unless LANE CLOSURE is in effect.

Signs # ③, ④, ⑥, ⑦, ⑧, ⑨, ⑩ shall be portable mounted.

** Signs # ④ to be mounted a Min. of 5' ht.

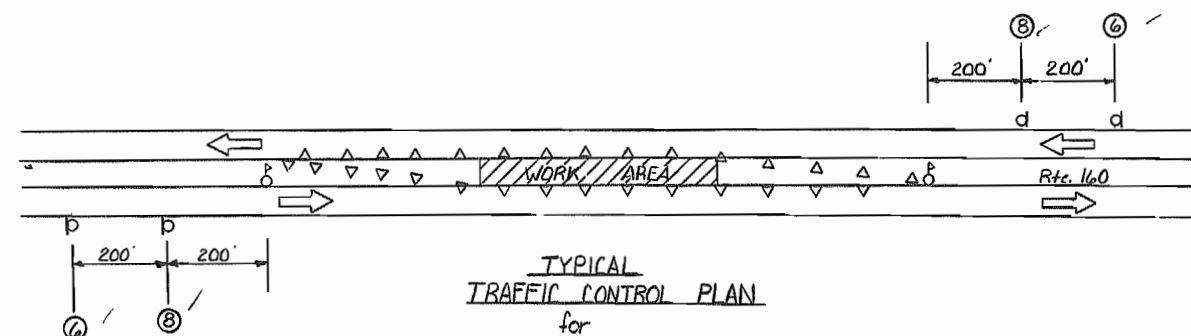
For Temporary Pavement Markings of Lanes, See Rte. 160 3 Lane Typical, Sheet 1 of 2 and for Gulf Street, see Traffic Signal Sheet No 23.

FINAL PLANS

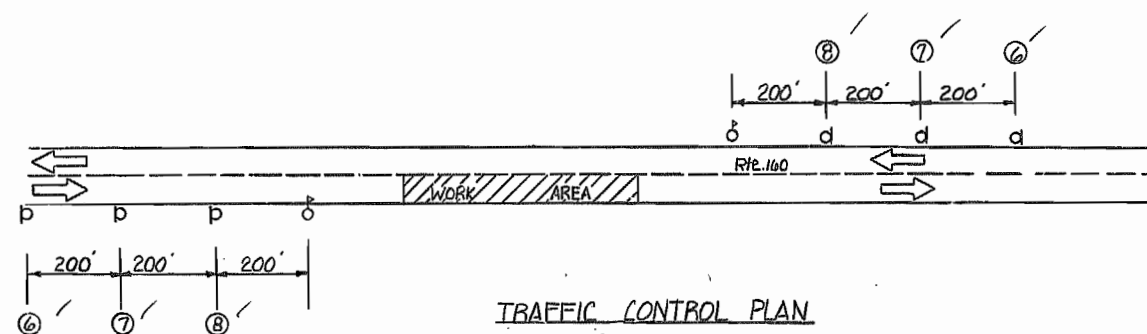
STATE	JOB NO.	SHEET NO.
MO.	7-P-160-334	22
DIST. NO.	PROJECT NO.	ROUTE
7	7-P-160-334	160
COUNTY	BARTON	

LEGEND

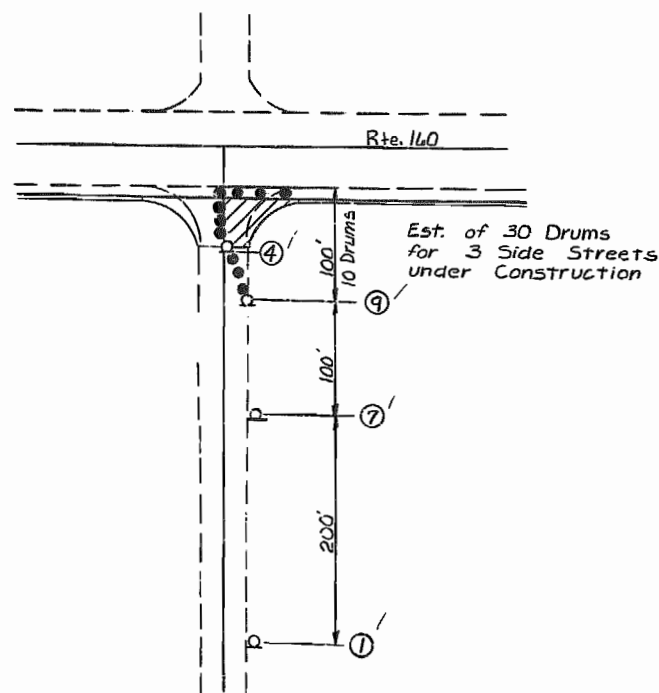
- D ~ Sign
- ~ Drum
- △ ~ Cone
- ~ Flagman



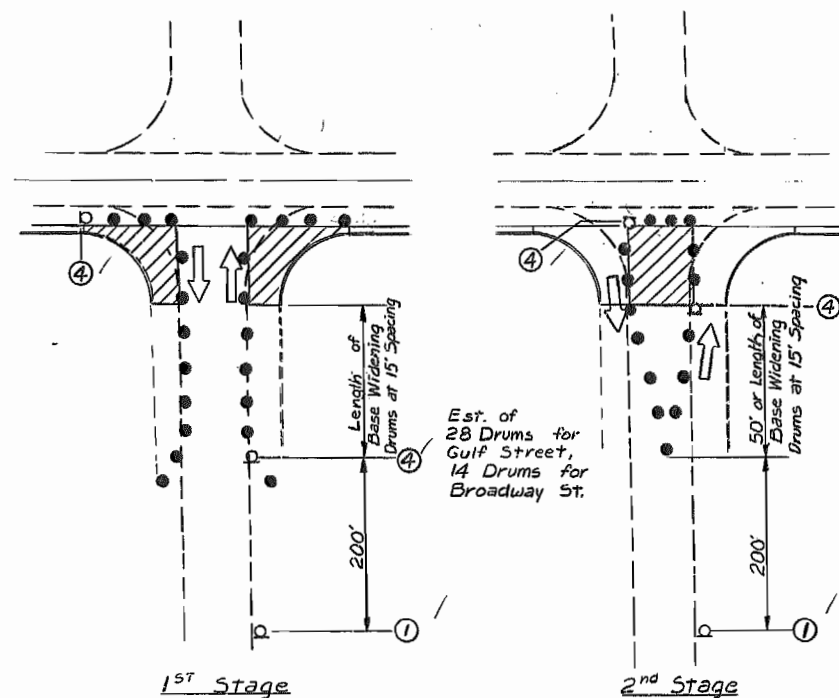
TYPICAL
TRAFFIC CONTROL PLAN
for
RESURFACING 3 LANE
P.A.V.T.



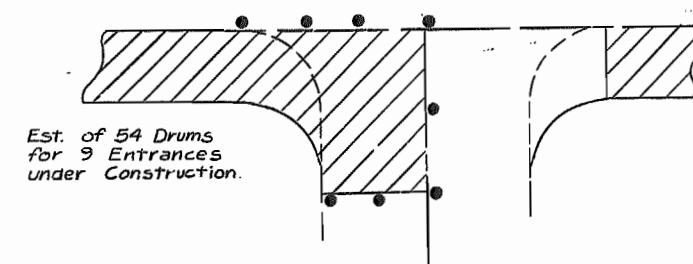
TRAFFIC CONTROL PLAN
for
RESURFACING & WIDTH TRANSITION



TYPICAL SIDE STREET
ONE LANE TRAFFIC



TYPICAL GULF & BROADWAY ST.
TWO LANE TRAFFIC



TYPICAL TRAFFIC CONTROL
AT
ENTRANCES

TRAFFIC CONTROL
PLAN

DATE	BY	FINAL SURVEY	SURVEYED	PLOTTED	TEMPLATE	AREAS CHECKED
		NO				

DATE	BY	ORIGINAL SURVEY	SURVEYED	PLOTTED	TEMPLATE	AREAS CHECKED
		NO				

57851

ORIGINAL SURVEY NOTE BOOK	SURVEYED	BY	DATE
	FLOTTED		
	TEMPLATE		
	AREAS		
	PLACED		

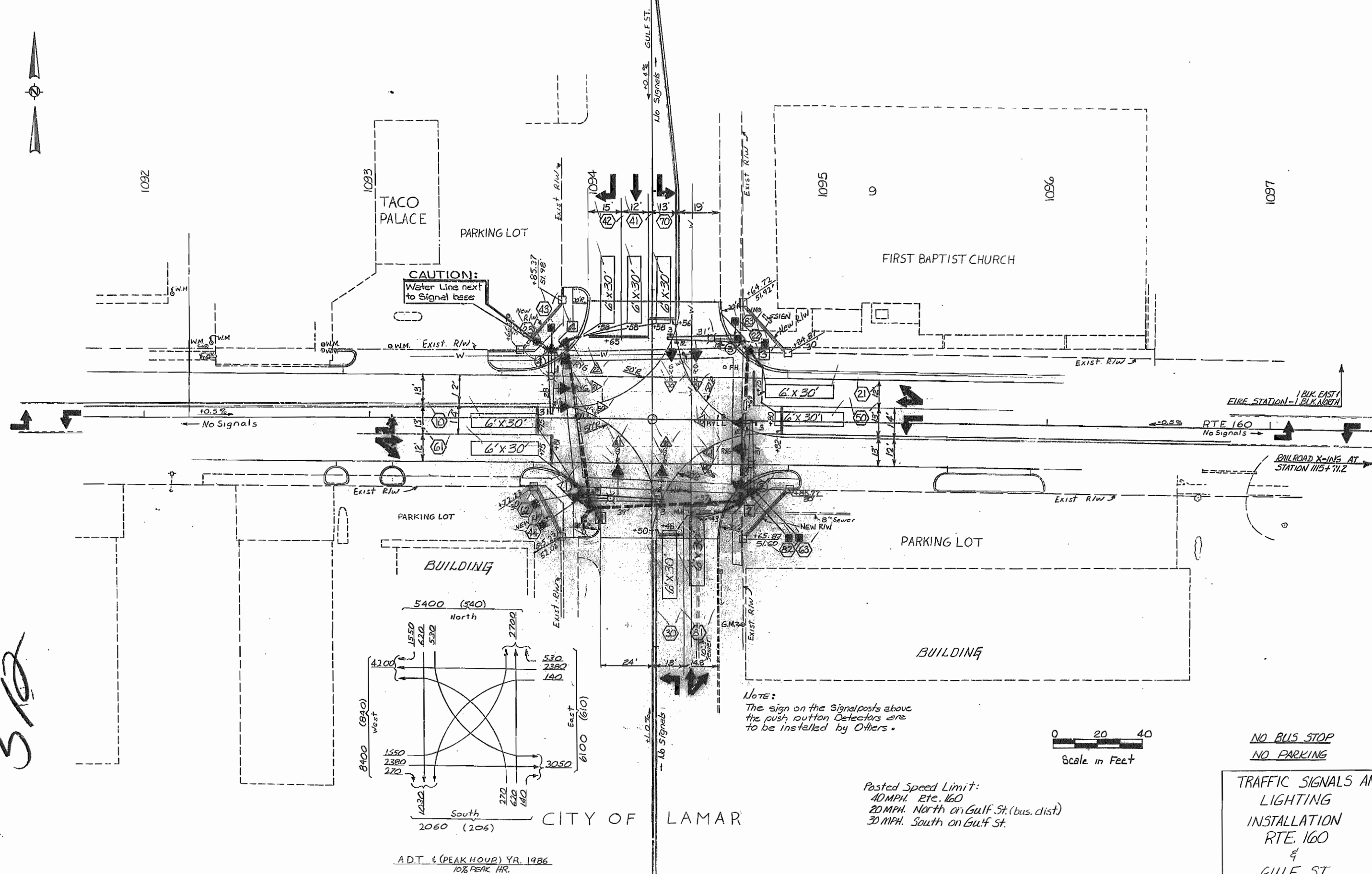
ORIGINAL	SURVEYED	SURVEYED	AREAS CHECKED
5/3	NOTED	FLIPPED	
	NOTE BOOK	AREAS	

$$\Delta = 0^{\circ}42.8' \text{ RT.}$$

8

FINAL PLANS

STATE MO.	JOB NO. 7-P-160-334	SHEET 23
DIST. NO. 7	PROJECT NO. 7-P-160-334	ROUTE 160
	COUNTY BARTON	



FINAL PLANS

STATE MO.	JOB NO. 7-P-160-334 ✓	SHEET NO. 24
DIST. NO. 7	PROJECT NO. 7-P-160-334 ✓	ROUTE 160
COUNTY BARTON		

CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT

LOCATION			ACTUATED						PRE-TIMED						ON-OFF SWITCH		COORDINATION UNIT			TONE UNIT		TIME CLOCKS			
APPROACH	STATION	OFFSET	MODULAR BY FUNCTION TYPE DP	MODULAR BY PHASE						TYPE						SEMI		TYPE		MASTER	LOCAL		TIME BASE	TRANSMITTER	RECEIVER
				S	D	P	SP	DP	S-M	S-S	M-N	M-I	M-M	TYPE 1	TYPE 2	I	II								
Gulf St.	10 + 44	30 Rt	8 PHASE																						

POWER SUPPLY

LOCATION			POWER SUPPLY ASSEMBLY		CIRCUIT BREAKER TRIP RATING				SERVICE POLE	
APPROACH	STATION	OFFSET	DRAWING 902.15	DRAWING	SIDE OF CONTROLLER	CONTROLLER		SERVICE POLE	CONTRACT FURNISH	UTILITY COMPANY
					LIGHTING BREAKER	AUXILIARY BREAKER	CONT & SIGNAL LAMPS	MAIN BREAKERS		
Rte. 160	1093+952	50' Rt	Type I		15 Amps	15 Amps	20 Amps	40 Amps	CL 1/4 F. 30	
			Type		Amps	Amps	Amps	Amps	F. 1	

[illegible]

* * CAUTION WATER LINES

● signs for push Buttons -
to be installed by others

[illegible]

REMARKS

*ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE

LEGEND
B-MAST ARM MOUNT
C-SPANWIRE MOUNT
T-TOP MOUNT
S-SIDE MOUNT

Rte 160 & Gulf St.
INTERSECTION

SP-37A

FINAL PLANS

STATE	JOB NO	7-P-160-334	SHEET NO	25
MO.	PROJECT NO	7-P-161-334	ROUTE	160
DIST. NO	COUNTY	BARTON		

TRAFFIC SIGNALS

DATE	BY	REVIEWED	DATE
ORIGINAL SURVEY	NOTED BOOK	NOTED BOOK	NOTED BOOK

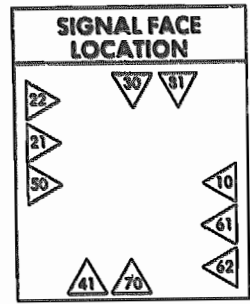
DATE	BY	REVIEWED	DATE
ORIGINAL SURVEY	NOTED BOOK	NOTED BOOK	NOTED BOOK

CONDUIT																	CABLE															
FROM	TO	CTR TO CTR DISTANCE	TRENCH						MEDIAN		PUSHED					ON BRIDGE	REMARKS	FROM	TO	CTR TO CTR DISTANCE	POWER	CONTROL					DETECTOR		REMARKS			
			1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	1 1/4		2	2 1/2	3	3 1/2							4	1c #8	2c #12	3c #12	5c #12	7c #12	12c #12		1c #14	Lead in Cable 2c #14	
0	1	6'	9'														2 - 3 in. Conduit	0	1	6'	82'										Luminaire & Signals w/ 24 Jumper	
1	2	6'					16'											1	2	14'		65'									Luminaire & Signals w/ 32 Jumper Back	
2	3	66'					65'											2	3	79'		133'									Luminaire & Signals w/ 17 Jumper	
3	4	74'				49'												3	4	146'		206'									Luminaire & Signals w/ 30 Jumper Back	
4	5	8'			11'													4	5	88'		140'										
5	6	14'	14'															5	6	6'												
6	7	67'			42'													6	7	7'												
7	8	7'			10'													7	8	139'												
8	9	8'	8'															8	9	80'												
9	10	7'			10'													9	10	42'												
10	11	9'	9'															10	11	33'												
11	12	8'	6'															11	12	32'												
12	13	8'																12	13	17'												
13	14	8'																13	14	32'												
14	15	8'																14	15	16'												
15	16	41'																15	16	41'												
16	17	25'																16	17	25'												
17	18	17'																17	18	17'												
18	19	14'																18	19	14'		34'										
19	20	14'																19	20	14'		34'										
20	21	79'																20	21	79'		105'										
21	22	79'																21	22	79'		105'										
22	23	146'																22	23	146'		178'										
23	24	146'																23	24	146'		178'										
24	25	88'																24	25	88'		114'										
25	26	88'																25	26	88'		114'										
TOTALS			46'	84'	49'	81'						24'	24'				TOTALS			82'	1406'			959'			3002'	827'				

Rte 160 & Gulf St.
INTERSECTION

FINAL PLANS

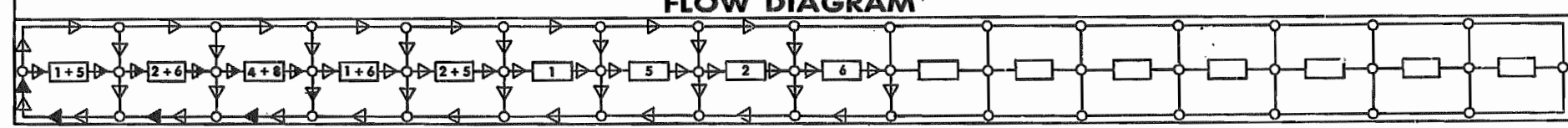
STATE NO.	JOB NO. 7-P-160-334	SHEET NO. 26
DIST. NO. 7	PROJECT NO. 7-P-160-334	ROUTE 160
	COUNTY BARTON	



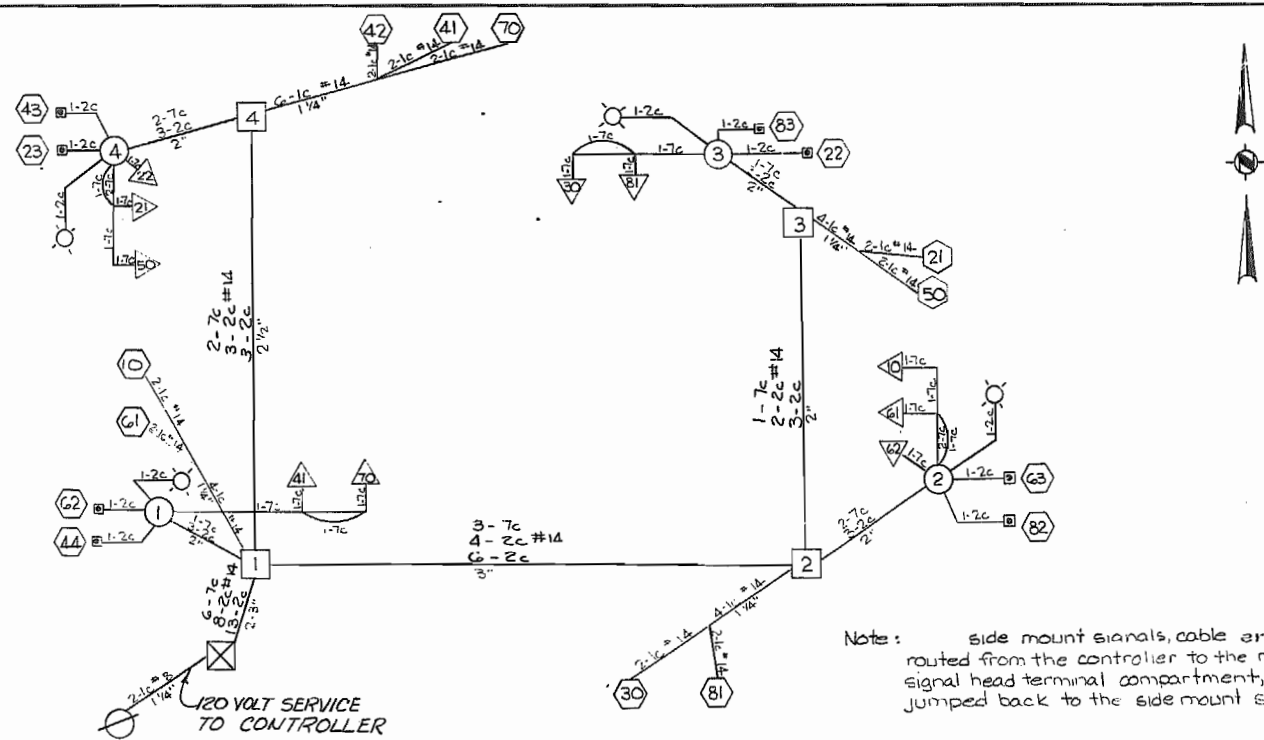
TRAFFIC PHASING AND COLOR SEQUENCE

CONT. NO.	PHASE 1	PHASE 5	PHASE 2	PHASE 6	PHASE 1 + 5	PHASE 1 + 6	PHASE 2 + 5	PHASE 2 + 6	PHASE 4 + 8	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	FACE NO.
APPROACH	FACE NO.	W 5 2 6 1 1 2 2 A 5 6 5 6 0	W 1 2 6 1 1 2 2 A 5 6 5 6 0	W 1 6 1 1 2 2 A 5 6 5 6 0	W 5 2 1 1 2 2 A 5 6 5 6 0	W 1 5 2 6 1 1 2 2 A 5 6 5 6 0	W 1 2 6 1 1 2 2 A 5 6 5 6 0	W 1 5 2 6 1 1 2 2 A 5 6 5 6 0	W 1 5 2 6 1 1 2 2 A 5 6 5 6 0	W 1 5 2 6 1 1 2 2 A 5 6 5 6 0	W 1 5 2 6 1 1 2 2 A 5 6 5 6 0	W 1 5 2 6 1 1 2 2 A 5 6 5 6 0	W 1 5 2 6 1 1 2 2 A 5 6 5 6 0	W 1 5 2 6 1 1 2 2 A 5 6 5 6 0	W 1 5 2 6 1 1 2 2 A 5 6 5 6 0	W 1 5 2 6 1 1 2 2 A 5 6 5 6 0	
EAST BOUND	10	LYYYLYYY	RRRRRRRR	RRRRRRRR	GYGGGYGY	LYYYLYYY	LYYYLYYY	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	10
	61 & 62	RRRRRRRR	RRRRRRRR	RRRRRRRR	GYGGGYGY	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	61 & 62
WEST BOUND	50	RRRRRRRR	LYYYLYYY	GYGGGYGY	RRRRRRRR	LYYYLYYY	RRRRRRRR	LYYYLYYY	GYGGGYGY	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	50
	21 & 22	RRRRRRRR	RRRRRRRR	GYGGGYGY	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	21 & 22
SOUTH BOUND	70, 41	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	70, 41
NORTH BOUND	30, 81	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	RRRRRRRR	30, 81

FLOW DIAGRAM



WIRING DIAGRAM



- PHASE ON RECALL WITH EQUAL TIME SETTINGS.
 - SKIP PHASE.
 - COMBINED RECALL & SKIP PHASE.
- IF CALLED, ALL NON-CONFLICTING PHASES SHALL COMBINE AND TIME CONCURRENTLY. TIMING TO BE DETERMINED BY THE ENGINEER AT SIGNAL TURN ON.

GENERAL NOTES:
 CONTROL PARAMETERS FOR FIVE SECTION LEFT TURN SIGNALS.
 WHEN ENERGIZED, THE SAME DIRECTION THROUGH TRAFFIC YELLOW AND GREEN SIGNAL INDICATIONS SHALL DISABLE THE CIRCULAR RED INDICATION IN THE FIVE SECTION SIGNAL HEAD CONTROLLING THE LEFT TURN.
 WHEN ENERGIZED, THE YELLOW LEFT ARROW OR CIRCULAR RED IN THE FIVE SECTION SIGNAL HEAD CONTROLLING THE LEFT TURN SHALL DISABLE THE CIRCULAR YELLOW INDICATION IN THE FIVE SECTION SIGNAL HEAD.
 WHEN ENERGIZED, THE GREEN LEFT ARROW OR YELLOW LEFT ARROW IN THE FIVE SECTION SIGNAL HEAD CONTROLLING THE LEFT TURN SHALL DISABLE THE CIRCULAR GREEN INDICATION IN THE FIVE SECTION SIGNAL HEAD.
 ONLY ONE INDICATION OF THE FIVE SECTION SIGNAL HEAD CONTROLLING THE LEFT TURN SHALL BE ON AT ANY ONE TIME.
 THE FOREGOING REQUIREMENTS MAY BE ACCOMPLISHED BY USING THE PEDESTRIAN CIRCUITS IN THE LOAD SWITCHES OR BY THE ADDITION OF LOAD SWITCHES.

- LEGEND**
- ACTUATED VEHICULAR MOVEMENT
 - PARTIALLY RESTRICTED ACTUATED MOVEMENT
 - NON-ACTUATED VEHICULAR MOVEMENT
 - PARTIALLY RESTRICTED NON-ACTUATED VEHICULAR MOVEMENT
 - ACTUATED PEDESTRIAN MOVEMENT
 - NON-ACTUATED PEDESTRIAN MOVEMENT
 - VEHICLE STOPPED
 - FDW - FLASHING DON'T WALK
 - R/W - RIGHT OF WAY INTERVAL
 - DW - DON'T WALK
 - YR - YELLOW RIGHT ARROW
 - RT - GREEN RIGHT ARROW
 - W - WALK
 - LY-YL - YELLOW LEFT ARROW
 - L - GREEN LEFT ARROW
 - S - GREEN STRAIGHT AHEAD ARROW
 - G - CIRCULAR GREEN
 - Y - CIRCULAR YELLOW
 - R - CIRCULAR RED
 - Ø - TRAFFIC PHASE
 - AO - ALL OTHERS
 - FR - FLASHING RED
 - FY - FLASHING YELLOW

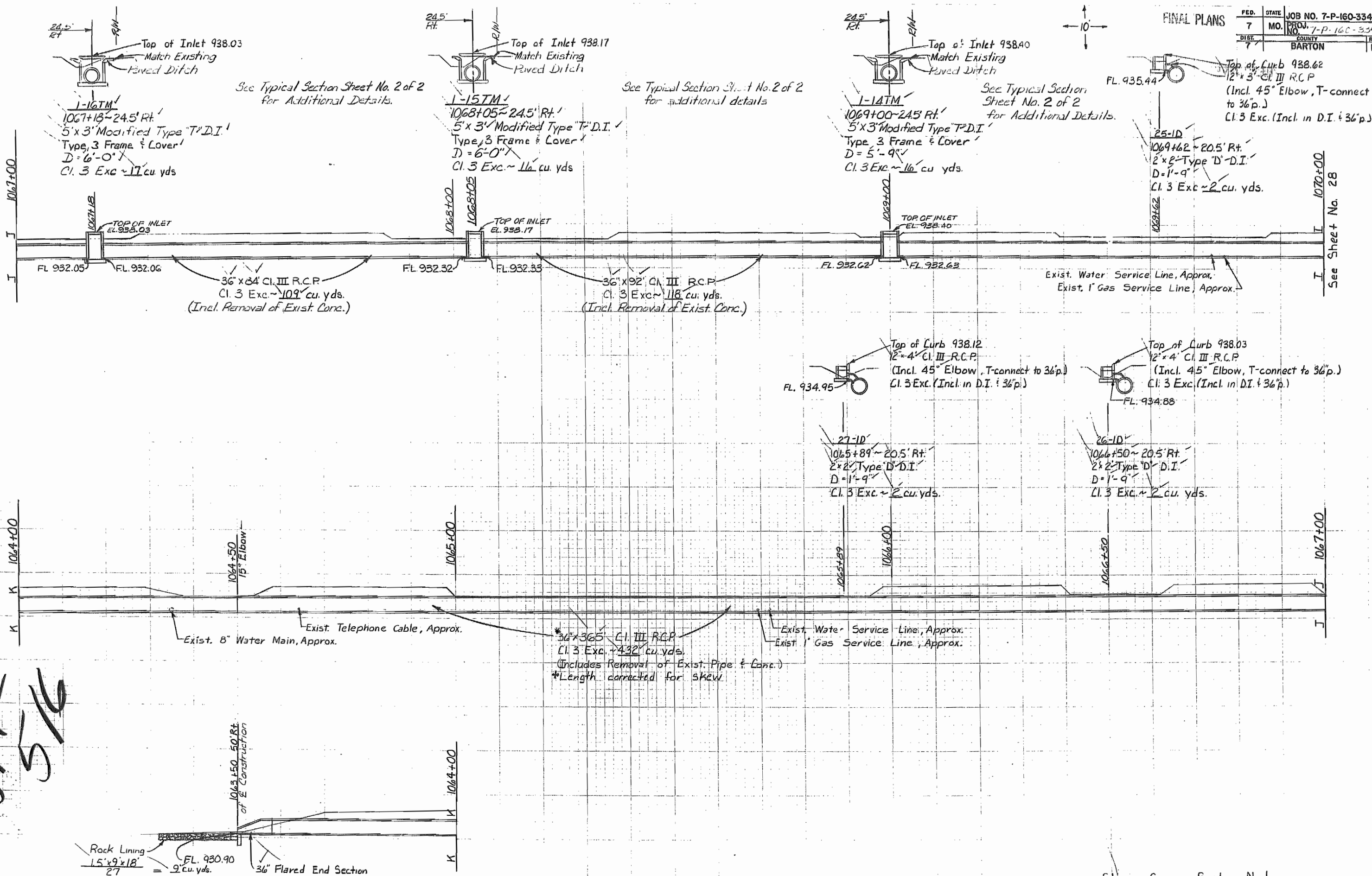
TRAFFIC SIGNAL CONTROL OPERATION

RTE 160
 INTERSECTION OF
 GULF ST.
 WITH

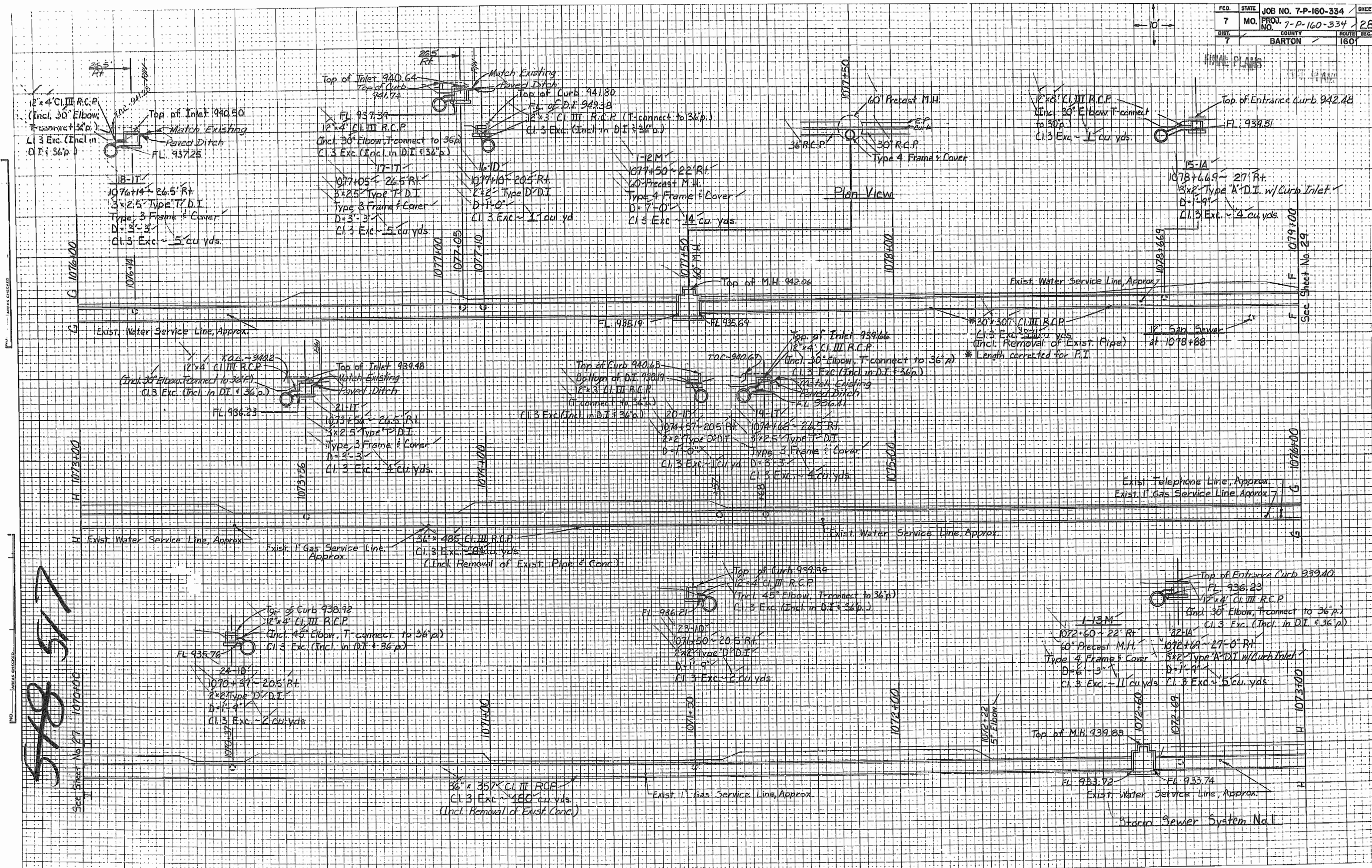
FLASHING OPERATION	
N-S APPROACHES	FR
E-W APPROACHES	FY
CONTROLLER TYPE 50 OR 60	

FINAL PLANS

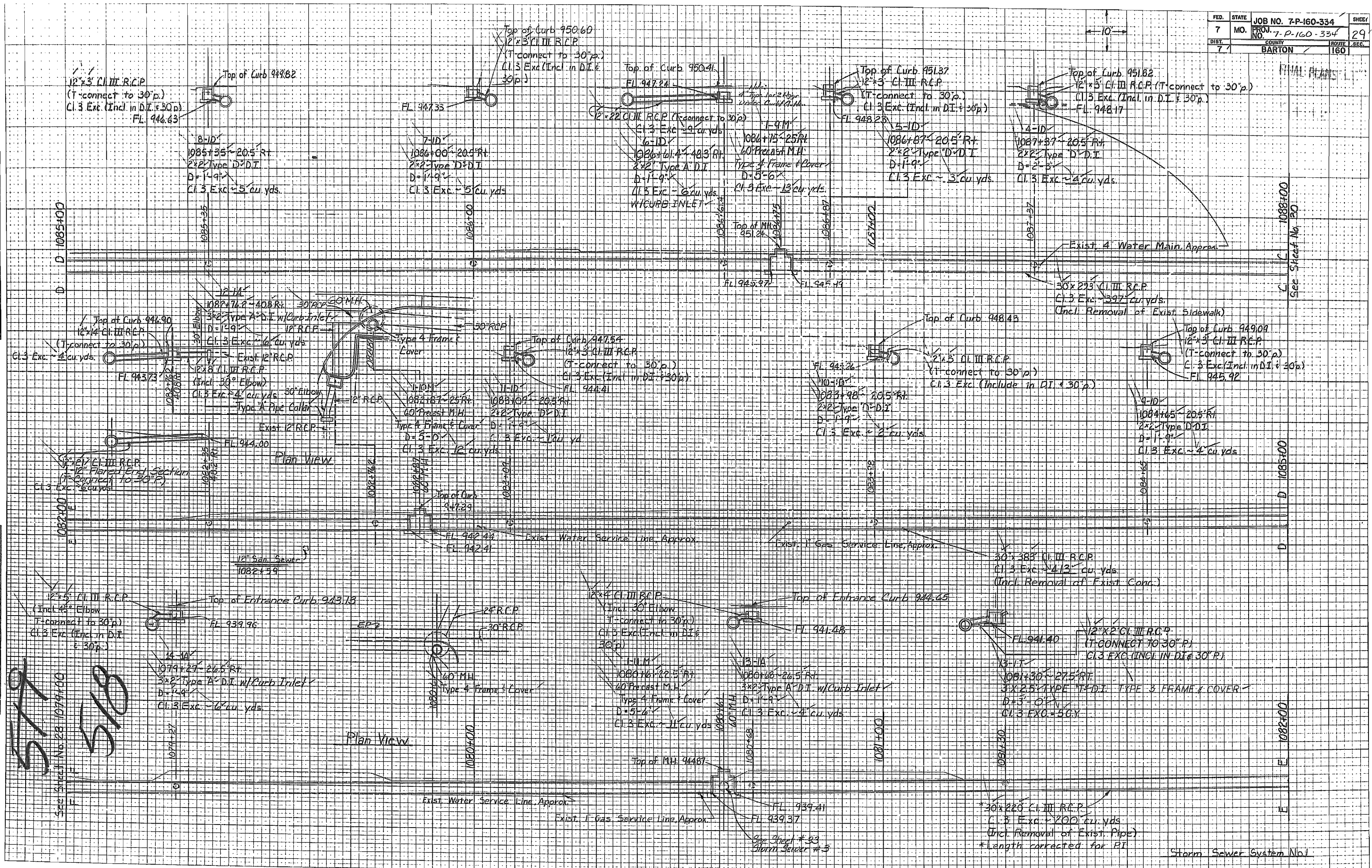
FED.	STATE	JOB NO.	7-P-160-334	SHEET
7	MO.	NO.	7-P-160-334	27
DIST.	COUNTY	ROUTE	SEC.	
7	BARTON	160		



Storm Sewer System No. 1

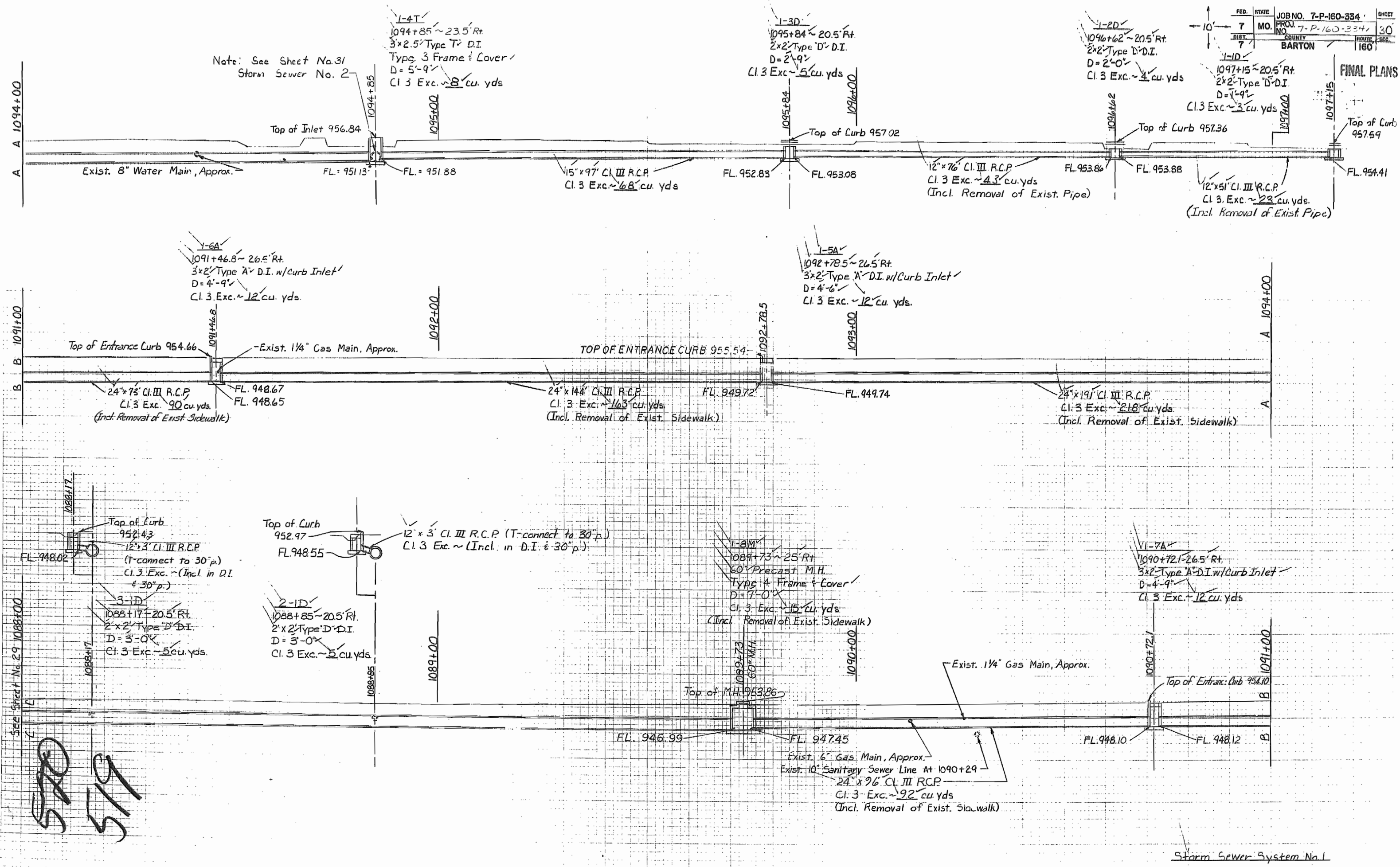


FINAL PLANS

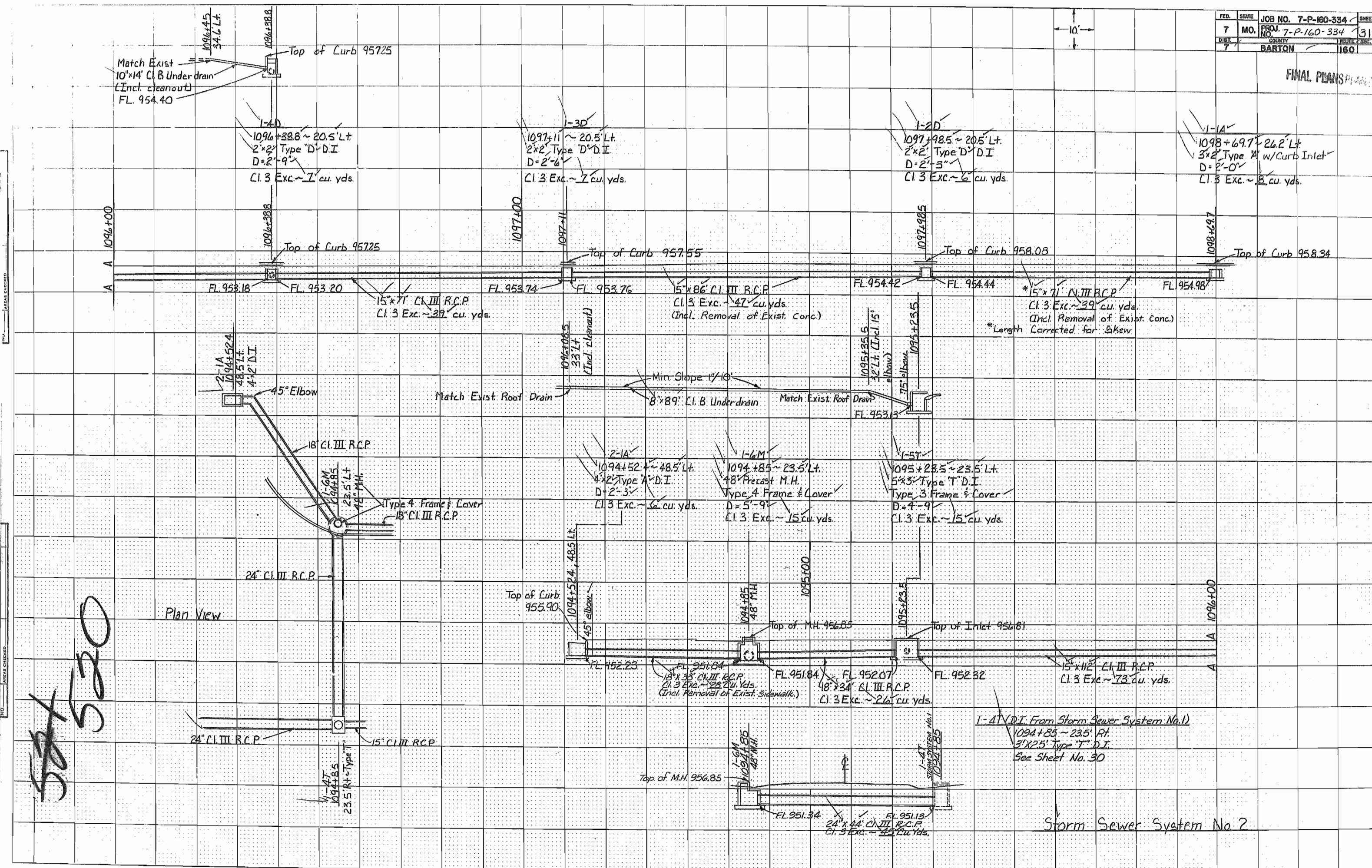


519
518

FINAL PLANS



FINAL PLANS



581520

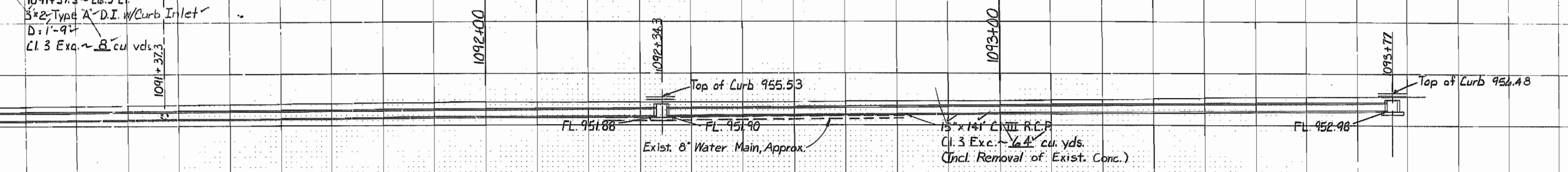
FINAL PLANS

2-1A
1091+37.3 ~ 26.5' Lt.
3x2" Type A" D.I. w/ Curb Inlet
D=1'-9"
C.I. 3 Exc. ~ 8 cu. yds.

Top of Entrance Curb 954.68
12"x5' C.I. III R.C.P. (T-connect to 15" p.)
C.I. 3 Exc. (Incl. in D.I. & 15 p.)
FL. 951.51
Exist. 8" Water Main, Approx.

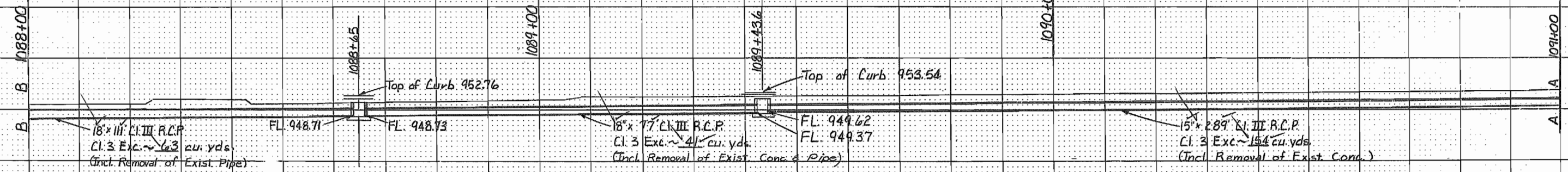
1-2D
1092+34.3 ~ 20.5' Lt.
2x2" Type D" D.I.
D=2'-3"
C.I. 3 Exc. ~ 6 cu. yds.

1-1A
1093+77 ~ 218' Lt.
3x2" Type A" D.I.
D=2'-0"
C.I. 3 Exc. ~ 6 cu. yds.



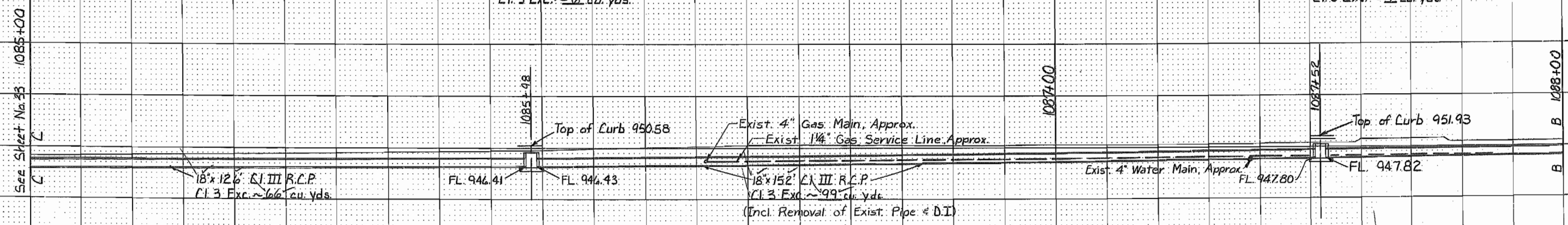
1-4D
1088+65 ~ 20.5' Lt.
2x2" Type D" D.I.
D=2'-9"
C.I. 3 Exc. ~ 5 cu. yds.

1-3D
1089+43.6 ~ 20.5' Lt.
2x2" Type D" D.I.
D=2'-9"
C.I. 3 Exc. ~ 6 cu. yds.



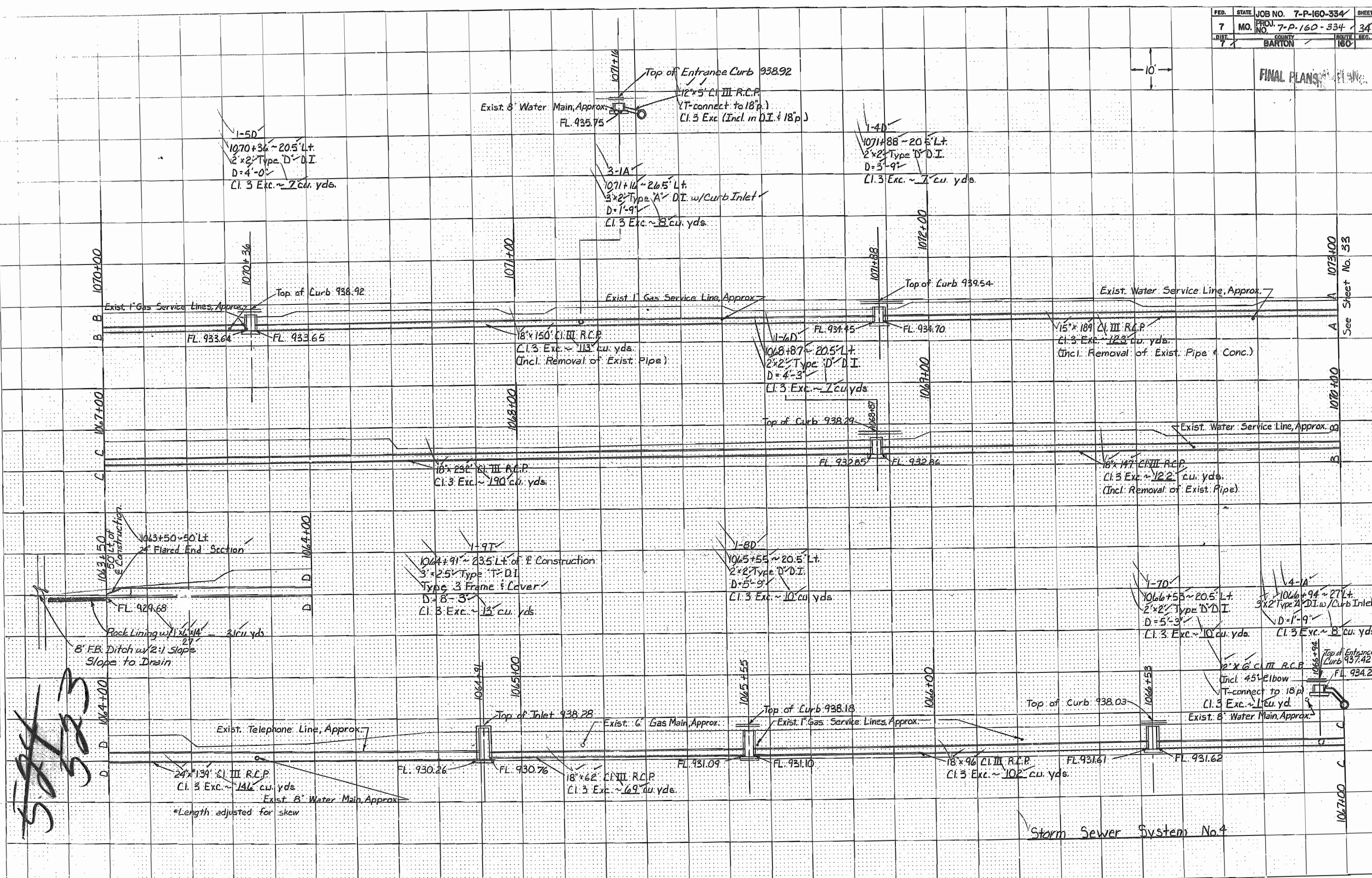
1-6D
1085+98 ~ 20.5' Lt.
2x2" Type D" D.I.
D=2'-0"
C.I. 3 Exc. ~ 6 cu. yds.

1-5D
1087+52 ~ 20.5' Lt.
2x2" Type D" D.I.
D=2'-9"
C.I. 3 Exc. ~ 7 cu. yds.



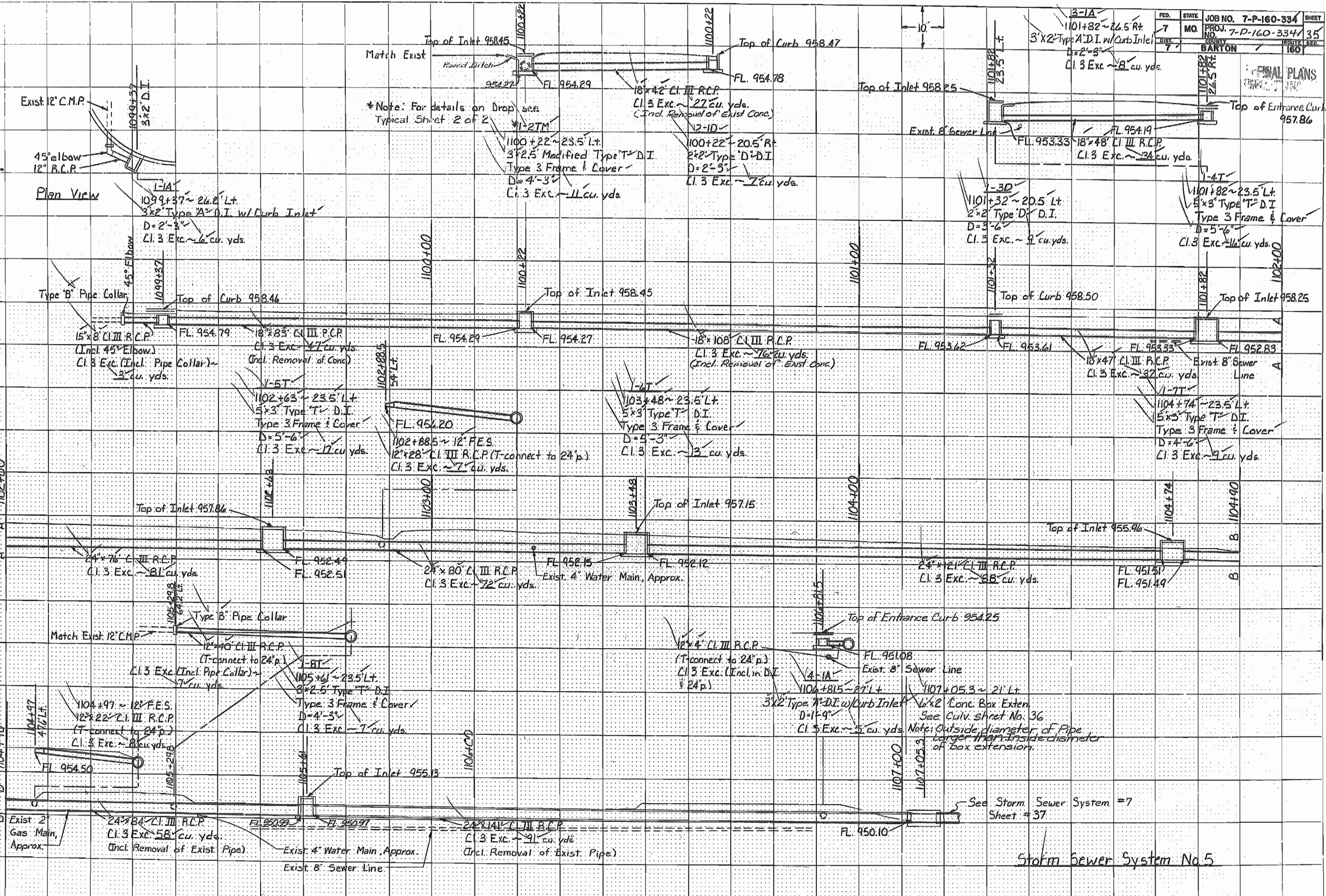
Storm Sewer System No. 3

FINAL PLANS



5853

FINAL PLANS



584
585

FINAL PLANS

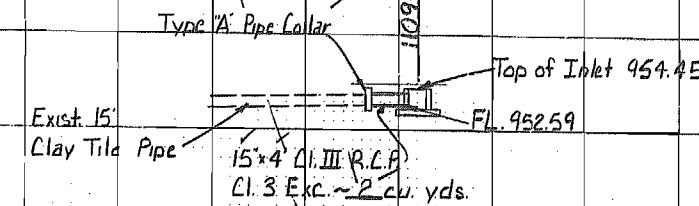
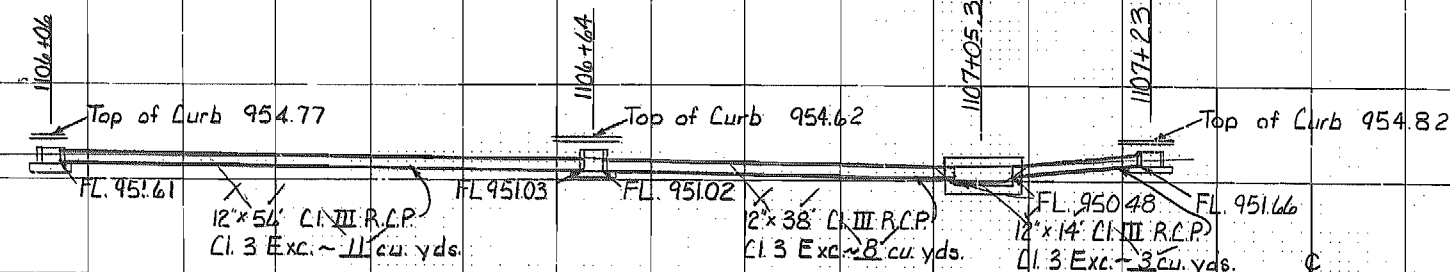
1-1D
1106+06 ~ 20.5' Rt.
2'x2' Type "D" D.I.
D=1'-9"
Cl. 3 Exc ~ 3 cu. yds.

1-2D
1106+64 ~ 20.5' Rt.
2'x2' Type "D" D.I.
D=2'-3"
Cl. 3 Exc ~ 4 cu. yds.

2-1D
1107+23 ~ 20.5' Rt.
2'x2' Type "D" D.I.
D=1'-9"
Cl. 3 Exc ~ 2 cu. yds.

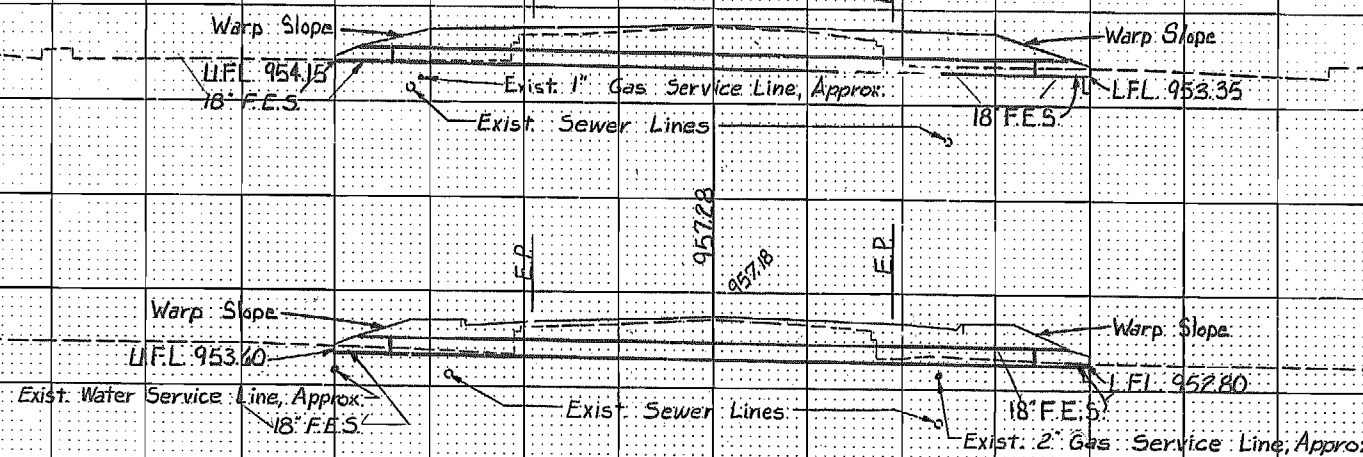
1-1S1
1109+22 ~ 54.6' Rt.
3'x2' Type "S1" D.I.
D=2'-0"
Cl. 3 Exc ~ 6 cu. yds.

1107+05.3 ~ 23.5' Rt.
6'x2' Conc. Box Exten. Rt.



Storm Sewer System #6

Storm Sewer System #8



Sta. 1113+06.8 ~ Exist. 15'x39.4' CMP
Remove 15' CMP & Replace w/ 18'x76' CI III R.C.P. (Incl. 2-18' F.E.S's)
Cl. 3 Exc ~ 36 cu. yds.

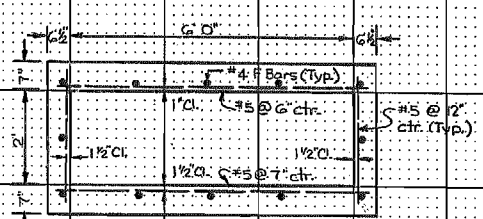
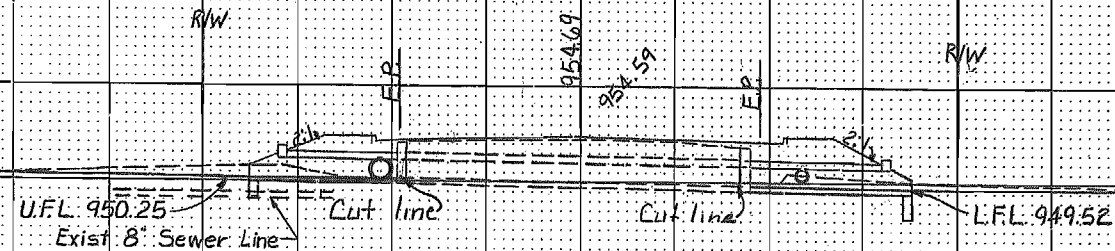
1113+06.8
Exist. 15'x39.4' CMP
Rt. 4's

Sta. 1112+58.4 ~ Exist. 15'x38.4' CMP
Remove 15' CMP & Replace w/ 18'x76' CI III R.C.P. (Incl. 2-18' F.E.S's)
Cl. 3 Exc ~ 35 cu. yds.

1112+58.4
Exist. 15'x38.4' CMP
Rt. 4's

Sta. 1107+05.3 ~ Exist. 6'x2' Conc. Box
Extend 14' Lt. & 16' Rt. w/ 6'x2' Conc. Box
Std. 103.21
Cl. 3 Exc ~ 43 cu. yds.

1107+05.3
Exist. 6'x2'x35.2'
Conc. Box
Rt. 4's



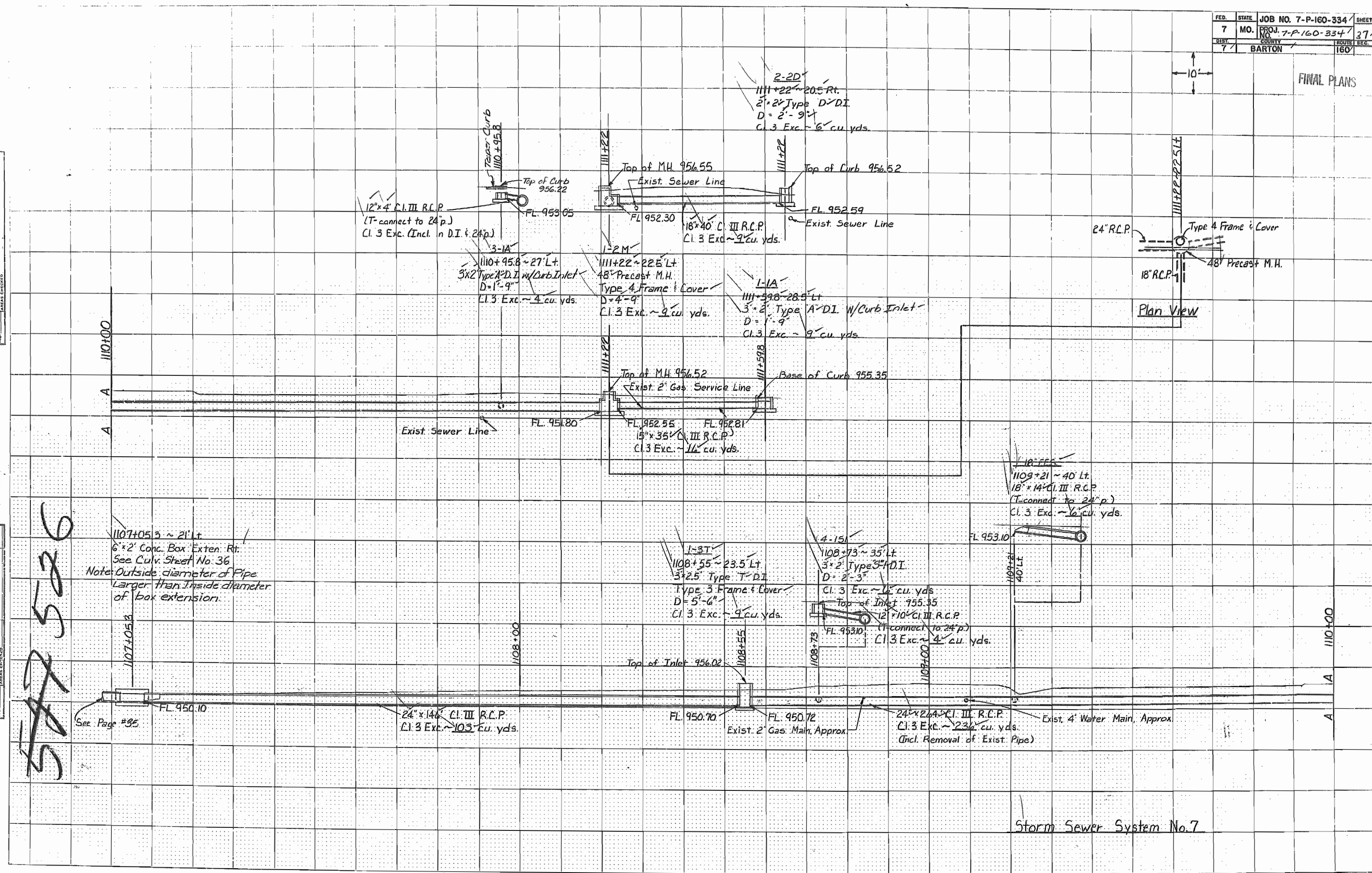
TYPICAL SECTION THRU BARREL
Cl. B Conc. Fc = 3000 PSI
Grade 60 Reinforcing Steel Fy = 60,000 PSI
See Std. Plans Dwg. 103.21 for Hwall & Wing Reinforcing.

Culverts & Storm Sewer System Nos 6 & 8

5/26/75

FINAL PLANS

10'



Storm Sewer System No. 7

STATE NO.	JOB NO. 7-P-160-334	SHEET NO. 38
DIST. NO. 7	PROJECT NO. 7-P-160-334	ROUTE 160
	COUNTY BARTON	

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
STANDARD PLANS

FINAL PLANS

✓	NO.	DESCRIPTION
	203.00E	EXCAVATION & EMBANKMENT
	203.02C	UNDERGRADING
	203.10A	TABULATED EARTHWORK & SECTION DATA
	203.20B	SUPERELEVATION SPIRALS & WIDENING (UNDIVIDED)
	203.21B	SUPERELEVATION SPIRALS & WIDENING (DIVIDED)
	203.30A	ENTRANCES & APPROACHES (LESS THAN 400 ADT)
	203.31B	ENTRANCES & APPROACHES (GREATER THAN 400 ADT - NO SAFETY ZONE)
	203.32D	ENTRANCES & APPROACHES (GREATER THAN 400 ADT - SAFETY ZONE)
	203.35A	MAILBOX TURNOUTS
	203.40E	TYPICAL DETAILS-RAMPS FOR INTERCHANGES (OTHER THAN 6:1 FORESLOPE)
	203.41E	TYPICAL DETAILS-RAMPS FOR INTERCHANGES (6:1 FORESLOPE)
	203.50J	TYPICAL CROSS-OVERS (DIVIDED HIGHWAYS)
	204.00D	EMBANKMENT CONTROL MEASURING DEVICES
	502.00M	CONCRETE PAVEMENT & BASE APPURTENANCES
	502.10E	DOWEL SUPPORTING UNITS
	503.00J	CONCRETE APPROACH SLABS TO BRIDGES (ALSO INCLUDE 502.00)
	602.00A	RIGHT-OF-WAY & DRAIN MARKERS
	604.05A	PIPE CULVERT HEADWALLS - TYPE S
	604.10B	HEADWALL-WITH ENERGY DISSIPATOR - 18"
	604.11B	HEADWALL-WITH ENERGY DISSIPATOR - 24"
	604.12B	HEADWALL-WITH ENERGY DISSIPATOR - 30"
	604.13B	HEADWALL-WITH ENERGY DISSIPATOR - 36"
	604.14B	HEADWALL-WITH ENERGY DISSIPATOR - 42"
	604.15B	HEADWALL-WITH ENERGY DISSIPATOR - 48"
	604.20B	DROP INLET - TYPE B
	604.21B	DROP INLET - TYPE C
	604.22B	DROP INLET - TYPE D
	604.23B	DROP INLET - TYPE E
	604.24B	DROP INLET - TYPE EE
	604.25B	DROP INLET - TYPE F
	604.26C	DROP INLET - TYPE G
	604.27C	DROP INLET - TYPE S (3 SHEETS)
	604.28D	DROP INLET - TYPE T (ALSO INCLUDE 614.30)
	604.29C	DROP INLET - TYPE X
	604.30F	CONCRETE MANHOLES (ALSO INCLUDE 614.30)
	604.40E	PIPE COLLARS
	605.10A	CLASS A UNDERDRAINS
	606.00T	GUARD RAIL (2 SHEETS)
	606.20G	BRIDGE ANCHOR SECTION (BRUSH CURB) (ALSO INCLUDE 606.00)
	606.21F	BRIDGE ANCHOR SECTION - CURB TYPE (ALSO INCLUDE 606.00)
	606.22D	BRIDGE ANCHOR SECTION (SAFETY BARRIER CURB) (ALSO INCLUDE 606.00)
	606.30E	TERMINAL SECTION (ALSO INCLUDE 606.00)
	606.40A	GUARD CABLE
	607.10Q	CHAIN LINK FENCE
	607.11B	CHAIN LINK FENCE FOR RETAINING WALLS
	607.20F	WOVEN WIRE FENCE (ALSO INCLUDE 607.10)

✓	NO.	DESCRIPTION
	608.00C	PAVED APPROACHES
	608.10G	CONCRETE SIDEWALK & WHEELCHAIR RAMPS
	608.20C	CONCRETE STEPS
	609.00G	CONCRETE CURB - CURB & GUTTER - GUTTER
	609.15A	PAVED DITCHES
	609.40D	DRAIN BASIN, SHOULDER PAVING & FILL SLOPE AT BRIDGE ENDS
	609.60A	DITCH LINER
	609.70C	ROCK LINING FOR CULVERT OUTLETS
	610.20E	BRICK MANHOLES (ALSO INCLUDE 614.30)
	611.60J	CONCRETE SLOPE PROTECTION
	612.10K	BARRICADES AND FLASHER SIGNS
	613.00	PAVEMENT REPAIR
	614.10N	CURB INLETS, GRATES & BEARING PLATES
	614.30D	MANHOLE FRAMES & COVERS
	615.00A	OFFICE FOR ENGINEER
	616.10J	TRAFFIC CONTROL DEVICES (3 SHEETS) (ALSO INCLUDE 903.01)
	617.00V	CONCRETE TRAFFIC BARRIER (3 SHEETS)
	702.01E	16" CONCRETE PILES (APPROVED TYPES) (2 SHEETS)
	702.02B	CAST-IN-PLACE CONCRETE PILES (APPROVED TYPES)
	703.15D	CONCRETE BOX CULVERTS, H15 LOADING (3 SHEETS) (INCL. 706.35)
	703.16D	CONCRETE BOX CULVERTS, H15 LOADING (3 SHEETS) (FLARED WINGS) (INCL. 706.35)
	703.20D	CONCRETE BOX CULVERTS, H20 LOADING (3 SHEETS) (INCL. 706.35)
	703.21D	CONCRETE BOX CULVERTS, H20 LOADING (3 SHEETS) (FLARED WINGS) (INCL. 706.35)
	703.24D	CONCRETE BOX CULVERTS, SKEW DATA (703.15, 703.20, 703.30) (INCL. 706.35)
	703.25C	CONCRETE BOX CULVERTS, SKEW DATA (703.16 & 703.21) (3 SHEETS) (FLARED WINGS) (INCL. 706.35)
	703.30D	CONCRETE BOX CULVERTS, 4' SPANS & LESS - ALL LOADING (INCL. 706.35)
	703.35B	CONCRETE BOX CULVERTS, CUTTING DETAILS (STRAIGHT WINGS) (INCL. 706.35)
	703.36A	CONCRETE BOX CULVERTS, CUTTING DETAILS (FLARED WINGS) (INCL. 706.35)
	703.50F	CONCRETE DOUBLE BOX STRUCTURE - SQUARE (INCL. 706.35)
	703.51E	CONCRETE DOUBLE BOX STRUCTURE - SKEWED (INCL. 706.35)
	703.52B	CONCRETE DOUBLE BOX STRUCTURE - CUT SECTIONS (INCL. 706.35)
	703.53D	DOUBLE BOX STRUCTURE REINFORCEMENT - H15 LOADING (8 SHEETS)
	703.54D	DOUBLE BOX STRUCTURE REINFORCEMENT - H20 OR HS20 LOADING (8 SHEETS)
	703.55C	CONCRETE DOUBLE BOX STRUCTURE (FLARED WINGS) SQUARE (INCL. 706.35)
	703.56C	CONCRETE DOUBLE BOX STRUCTURE (FLARED WINGS) SKEWED (INCL. 706.35)
	703.60C	CONCRETE BOX STRUCTURE - PIPE INLET
	703.70B	CONCRETE TRIPLE BOX STRUCTURE - SQUARE (2 SHEETS) (INCL. 706.35)
	703.71B	CONCRETE TRIPLE BOX STRUCTURE - SKEWED (2 SHEETS) (INCL. 706.35)
	703.72B	CONCRETE TRIPLE BOX STRUCTURE - (FLARED WINGS) (SQUARE) (2 SHEETS) (INCL. 706.35)
	703.73B	CONCRETE TRIPLE BOX STRUCTURE - (FLARED WINGS) (SKEWED) (2 SHEETS) (INCL. 706.35)
	703.74B	CONCRETE TRIPLE BOX STRUCTURE - CUT SECTIONS (INCL. 706.35)
	703.75	CONCRETE TRIPLE BOX STRUCTURE REINFORCEMENT - H15 LOADING (5 SHEETS)
	703.76B	CONCRETE TRIPLE BOX STRUCTURE REINFORCEMENT - H20 OR HS20 LOADING (5 SHEETS)
	706.30E	REINFORCING BAR SUPPORTS
	706.35E	BAR SUPPORTS FOR CONCRETE REINFORCEMENT
	712.40E	STEEL DAMS FOR BRIDGES (6" CHANNEL)
	725.31C	METAL CURTAIN WALL AND METAL INLETS
	726.30C	CULVERT INSTALLATION METHODS
	731.00Q	PRECAST MANHOLES (ALSO INCL. 614.30)
	731.10G	PRECAST DROP INLETS (4 SHEETS) (ALSO INCLUDE 614.30 & 614.10)
	732.00L	FLARED END SECTION (2 SHEETS)
	806.02A	STAPLE PLACEMENT FOR PLASTIC NETTING

✓	NO.	DESCRIPTION
		HIGHWAY LIGHTING
	901.00N	POLES & APPURTENANCES - 30' (3 SHEETS)
	901.01T	POLES & APPURTENANCES - 45' (3 SHEETS)
	901.05A	CONTROL PANEL CABINET DETAILS (2 SHEETS) (NOTE BELOW)
	901.12C	POLE MOUNT. CONT. STA. - SECONDARY SERV. - 480 V MULTI. CIR. (NOT METERED)
	901.15E	POLE MOUNT. CONT. STA. - SEC. SERV. - 120, 240, & 480 V MULTI. CIR.
	901.16D	POLE MOUNT. CONT. STA. - SEC. SERV. - 480 V MULTI. CIR. (METERED)
	901.18D	POLE MOUNT. CONT. STA. - SEC. SERV. 120/240 V MULT. CIR.
	901.19D	POLE MOUNT. CONT. STA. - SEC. SERV. - 240 V MULTI. CIR. (NOT METERED)
	901.20D	POLE MOUNT. CONT. STA. - SEC. SERV. - 120/240 V MULTI. CIR. (SIG. METERED)
	901.22E	POLE MOUNT. CONT. STA. - SEC. SERV. - 120/240 & 480 V MULTI. CIR. (BOTH METERED)
	901.23E	POLE MOUNT. CONT. STA. - SEC. SERV. - 240 V MULTI. CIR. (METERED)
	901.24D	POLE MOUNT. CONT. STA. - SEC. SERV. - 240 V MULTI. CIR. (LT'S & SIGS-BOTH METERED)
	901.25D	BASE MOUNT. CONT. STA. - SEC. SERV. - 120/240 V MULTI. CIR.
		NOTE: ALSO INCLUDE 901.05 WITH 901.12 THROUGH 901.25 EXCEPT 901.18
		TRAFFIC SIGNALS
	902.00E	SIGNAL HEADS, LENSES AND MOUNTING
	902.10J	PULL BOXES, CONTROLLERS, COND. LOCATION
	902.15D	POWER SUPPLY ASSEMBLY
	902.21B	TELEPHONE INTERCONNECT
	902.30G	CONCRETE BASES
	902.40G	TUBULAR STEEL POST
	902.50E	DETECTORS
	902.60E	SPAN WIRE DETAILS - STEEL POST
	902.70B	SPAN WIRE DETAILS - WOOD POLE
	902.80A	TRAFFIC SIGNAL SYMBOLS
		HIGHWAY SIGNING
	903.01C	ALPHABETS (2 SHEETS)
	903.02W	HIGHWAY SIGNING (7 SHEETS)
	903.03AJ	SIGN MOUNTING DETAILS (5 SHEETS)
	903.04D	WEIGH STATION SIGNING
	903.05C	TUBULAR SPAN SUPPORT - ONE TUBE, TYPE S
	903.06C	TUBULAR SPAN SUPPORT - TWO TUBE, TYPE S
	903.07C	TUBULAR CANTILEVER SUPPORTS, TYPE C
	903.08C	TUBULAR BUTTERFLY SUPPORTS, TYPE B
	903.09C	LIGHTING SUPPORT BRACKET
	903.10T	SIGN TRUSSES - OVERHEAD ALUMINUM (8 SHEETS) (INCL. 903.03)
	903.12N	SIGN TRUSSES - BUTTERFLY & CANTILEVER - STEEL (7 SHEETS) (INCL. 903.03)
	903.60S	SIGN TRUSSES - OVERHEAD STEEL (7 SHEETS) (INCL. 903.03)

NOTES: Plans for this project were developed using Drawings from this index.

* REVISED SINCE JANUARY 1988

DESIGN DESIGNATION

A.D.T. 1952 = 5,990
A.D.T. 2002 = 8,230

D = 10%
T = 1%
V = 40 M.P.H.

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION PLANS FOR PROPOSED STATE HIGHWAY

FEDERAL AID PROJECT
BARTON COUNTY

COUNTY BARTON
ROUTE 160
PROJECT BRF-160-1(11)
JOB NO. 7-P-160-186

FINAL PLANS

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LENGTH OF PROJECT

END OF PROJECT	STA. 1064+48.5
BEGINNING OF PROJECT	STA. 1035+00
APPARENT LENGTH	2948.5 FEET
EQUATIONS AND EXCEPTIONS	NONE
TOTAL CORRECTIONS	2948.5 FEET
NET LENGTH OF PROJECT	2948.5 FEET
STATE LENGTH	0.558 MILES
FEDERAL LENGTH	0.558 MILES

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

SUBMITTED

CHIEF ENGINEER

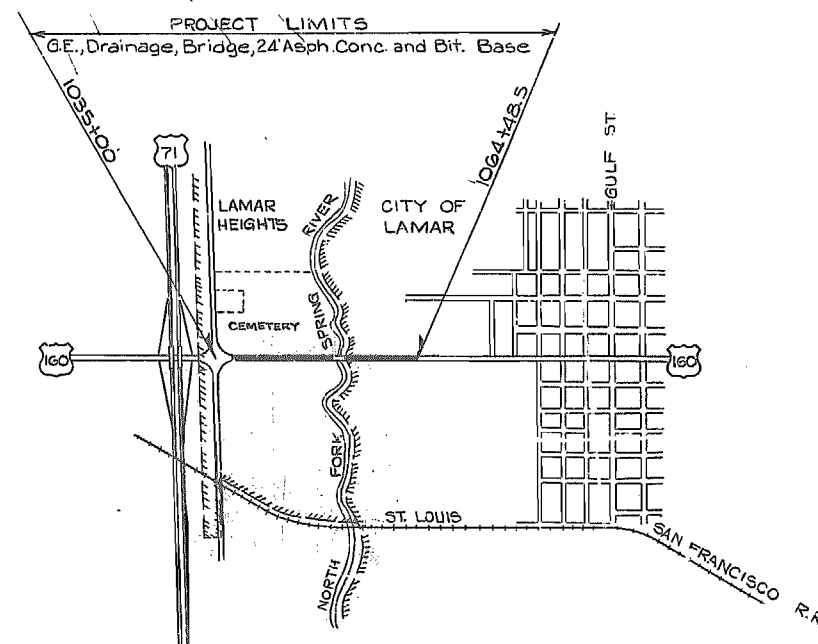
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U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ENGINEER

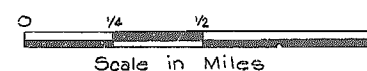
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CONVENTIONAL SIGNS (USED IN PLANS)

BUILDINGS AND STRUCTURES	
GUARD RAIL	
CONCRETE RIGHT-OF-WAY MARKER	
STEEL RIGHT-OF-WAY MARKER	
FENCE	
CHAIN LINK	
WOVEN WIRE	
GATE	
UTILITIES	
TELEPHONE	
POWER	
GAS	
WATER	
UNDERGROUND TELEPHONE	

NOTE: DASHED OR OPEN SYMBOL INDICATES EXISTING FEATURE

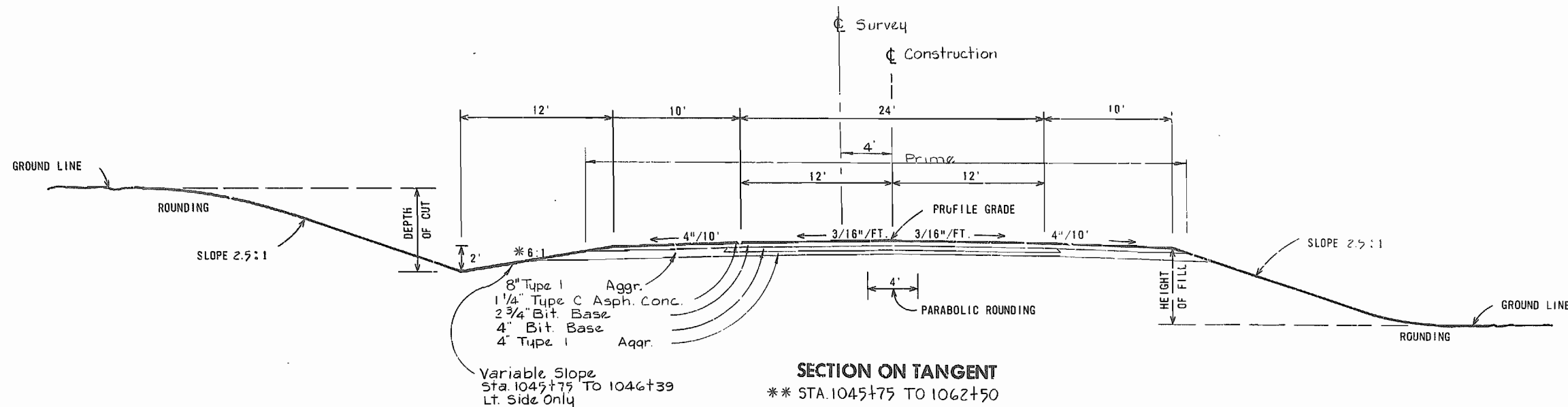


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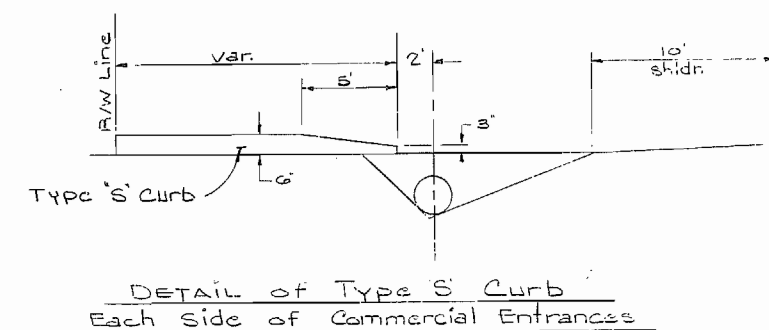
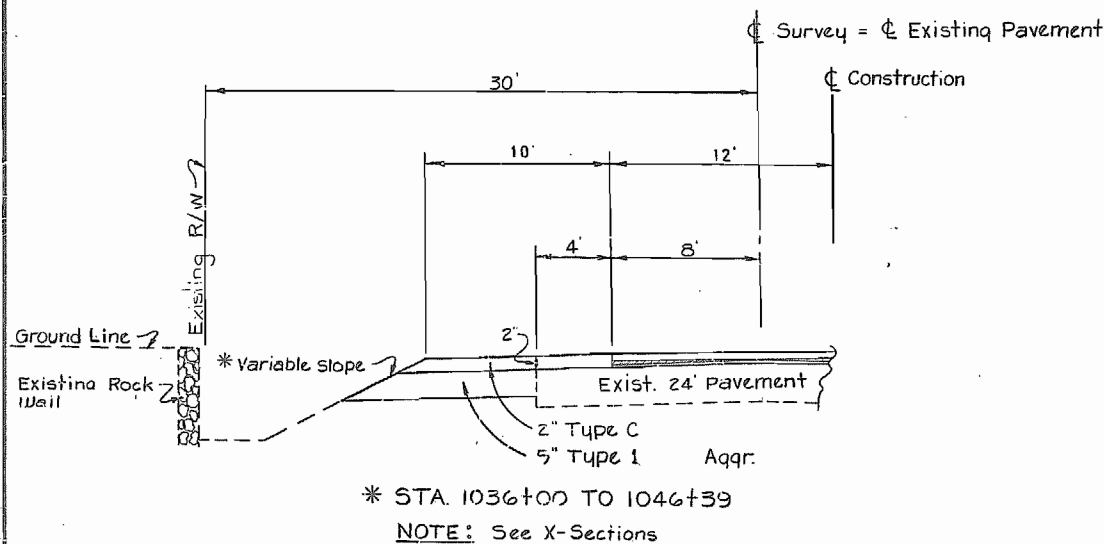
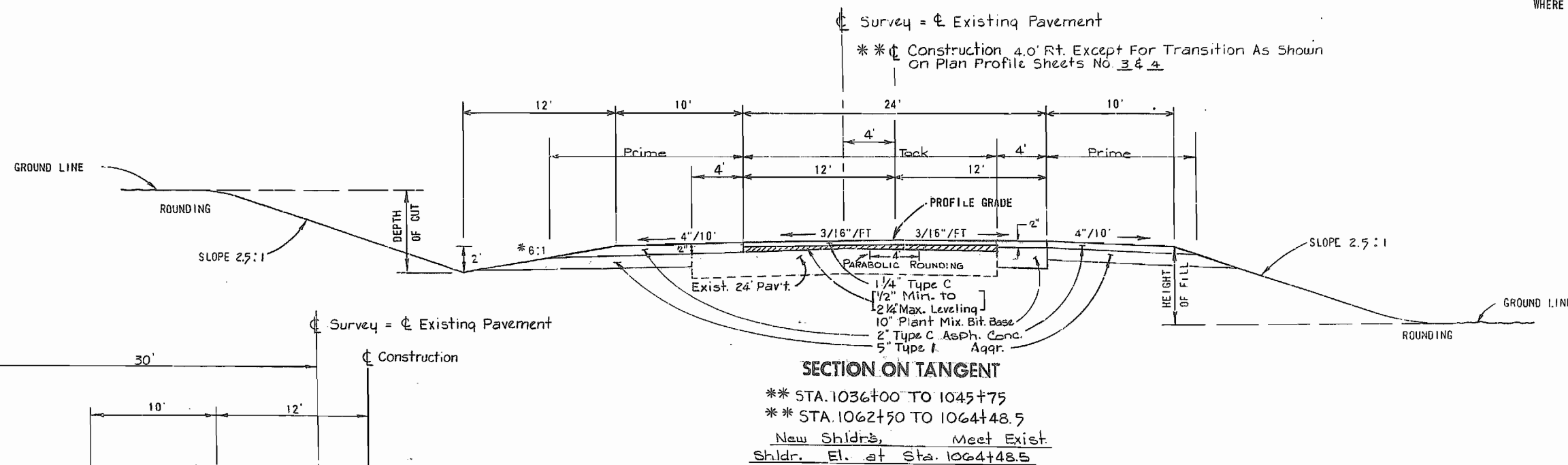
FED. AID DIST. NO.	STATE	FEDERAL PROJECT NO. & SEC.	SHEET NO.
5	MO.	BRF-160-1(11)	2
DIST. NO.	COUNTY	SHEET NO.	SEC.
7	BARTON	160	

JOB NO. 7-P-160-186

FINAL PLANS



WIDEN SHOULDER 2 FEET (IN CUTS OR FILLS)
WHERE GUARD RAIL IS TO BE CONSTRUCTED.
(1 TO 20 TRANSITION)



FID FORD Dist. No.	STATE	JOB NO	7-P-160-186	FILE NO.
7	MO.	PROJECT NO	BRF-160-1(11)	2A
DATE	COUNTY			
7	BARTON		160	

214

BARTON

66-100-1117 160

Project Completed and accepted. Date 1-2-85
Checked main off B1 Mark J. Souter Date 3-25-85

MISSOURI STATE HIGHWAY COMMISSION

SUMMARY OF QUANTITIES

Job No. 1-P-100-180

sheet 1 of 2

FED. ROAD DIVISION	STATE	PROJECT	SHEET NO.
5	MO.	BR-150-1	2B
DIST. NO.	COUNTY		ROUTE
7	BARTON		1500

REINFORCING PIPE CULVERT CLASS III											REMOVAL OF IMPROVEMENTS		FINAL PLANS
Sta	Type	Loc	Std	% Grade	Reinf 15" FI	Conc 24" FI	Pipe 30" FI	Overfill height	Pipe Collar Flared Type 4" 24" End Sec 24"	Remarks			
1037+50	C.E.	RT		0.00	51			2		30' Top			
1037+20	R.E.	RT		+7.1		41'		1.5		30' Top ~ 2" TYPE C ASPH CONC ON 4" TYPE 1 or 2 BRGR.			
1041+33	C.E.	RT		+0.0		51'		1.5					
1041+55	C.E.	RT		+0.0		50		1		40' Top			
1047+54	F.E.	RT		-1.2		56		4					
1054+00	F.E.	RT		-15.0			52	3					
1064+00	F.E.	LT		+13.0		41'		2		Place in Lt ditch			
1065+70		LT				35'							
Totals					51	284	52						

GUARD RAIL TYPE A								CONCRETE CURB TYPE S							
Sheet	Sta	to	Sta	Loc.	Lin. ft.	Term. Sec.	Br./Anch. Sec. #	Remarks * SAFETY BARRIER CURB (STD G.O.C. 210D)	Sheet	Sta.	to	Sta.	Loc.	Lin. ft.	Remarks
S 15 10	1048±	-	1049±	Rt.	75	1	Y	@ Br. End	3	1037+50 - 1037+65			Rt.	15	Along R/W Line
	1048±	-	1049±	Lt.	75	1	Y	@ Br. End	3	1037+65			Rt.	14	Rt. Side of Ent.
	1051±	-	1053±	Rt.	75	1	Y	@ Br. End	3	1037+95			Rt.	14	Lt. Side of Ent.
	1051±	-	1052±	Lt.	75	1	Y	@ Br. End	3	1037+95 - 1038+10			Rt.	15	Along R/W Line
				Total	300'	4	4		3	1040+50 - 1041+13			Rt.	68	Along R/W Line
									3	1041+13			Rt.	15	Rt. Side of Ent.
									3	1041+43			Rt.	15	Lt. Side of Ent.
									3	1041+43 - 1044+65			Rt.	317	Along R/W Line
									3	1044+65			Rt.	16	Rt. Side of Ent.
									3	1045+05			Rt.	16	Lt. Side of Ent.
									3	1045+05 - 1047+44			Rt.	239	Along R/W Line
										Total ~				744'	

RIGHT OF WAY MARKERS
Constructed by others

Sheet	Sta	Steel Rt.	Steel Lt.	Flush Rt.	Flush Lt.	Location Rt.	Location Lt.	Remarks
3	1040f00	1				60'		
3	1045f50	1				60'		
3	1046f00			1			30'	
3	1046f50						60'	
3	1050f00	1	1			120'	100'	
3	1052f00	1	1			120'	100'	
3	1053f25	1	1			10'	10'	
4	1064f08.5	1				70'		
4	1064f48.5	1				30'		
4	1064f74		1				70'	
4	1064f78		1				30'	
Totals		7	5		2			

CLEARING & GRUBBING			
Sheet	Clear Units	Grub Units	Remarks
3	161	93	
4	47	4	
6	3	3	
Sub. Totals		211	102
		2.4 Ac.	1.2 Ac.

3ft. THICK TYPE 1 ROCK BLANKET				
Sheet	Sta.	Location	Furnish cu.	Placing cu.
3	1049f37	West End of Bridge	386	520
3	1051f82	East End of Bridge	380	715
3		Male Crossing	10	10
		Totals ~	776	1275
			Incl. 134 cu. From Exist. Pav't	
			Incl. 348 cu. From Exist. Pav't	
			6.0 cu. yd.	

NETTING TYPE III							REINF. CONC. PIPE CULVERT CLASS III					Sheet Sta. to Sta. Loc. ditch depth length surf. slopes & by Remarks														
Sheet	Sta	to	Sta	Location	Exceptions	S.Y.	Remarks	SHEET	STA.	LOC.	SKW.	18"	C.Y.	REMARKS	Sheet	Sta.	to	Sta.	Loc.	ditch width	depth	length	surf. width	slopes	& by	Remarks
3	1046+935		1050+00	N.L. Lt. Ditch		205.3		4	1060+150	ST. PASS	58'	113'		SALVAGE FORM MAINT. CULVERT SEC. SHOWN ON X-SEC. SHEET NO. 7	3	1035+70		1030+05	Lt.	5.5'	0'-9"	35'	8'	4.5:1	31	
							TOTALS - 58' 113'																			

[illegible]

5/2/04

SUMMARY OF QUANTITIES

SHEET 2 of 2

STATE	JOB NO. 7-P-160-186	SHEET NO.
MO.	PROJECT NO. BR-160-1 (11)	2B
DIST. NO.	COUNTY BARTON	ROUTE
7		160

FINAL PLANS

ITEM NUMBER	SIZE (INCHES)	TOTAL QUANTITY	DESCRIPTION
616-10.20	36x18	12	DRUM
616-10.35	One Rail		TYPE I BARRICADE
	8x24		
616-10.36	Two Rails		TYPE II BARRICADE
	8x24		
616-10.40	36x72		FLASHING ARROW PANEL
616-10.45	18x18		TYPE I OBJECT MARKER
616-10.46	6x12	30	TYPE II OBJECT MARKER
616-10.47	8x24	10	TYPE III OBJECT MARKER
616-10.50	8x8	4	FLASHING ELECTRIC LIGHT
616-10.51			WARNING LIGHT TYPE A
616-10.52			WARNING LIGHT TYPE B
616-10.53			WARNING LIGHT TYPE C
616-10.60			RAISED PAVEMENT MARKER
612-10.30	Three Rails	4	MOVABLE BARRICADE
	72x144		
621-10.00	PER 100'	3	Pvt. STRIP REMOVAL
622-10.00	PER MILE	0.6	TEMP. Pvt. Marking
621-04.21	PER 100'	44	TEMP. Pvt. STRIP (2-4" Yellow)

All Signs, Plates, and Plaques shall be faced with Type 1 Reflective Sheeting in Accordance with Sec 1042.

Sign Dimensions Shown are Minimum. No Additional Payment if Contractor Uses Larger Signs.

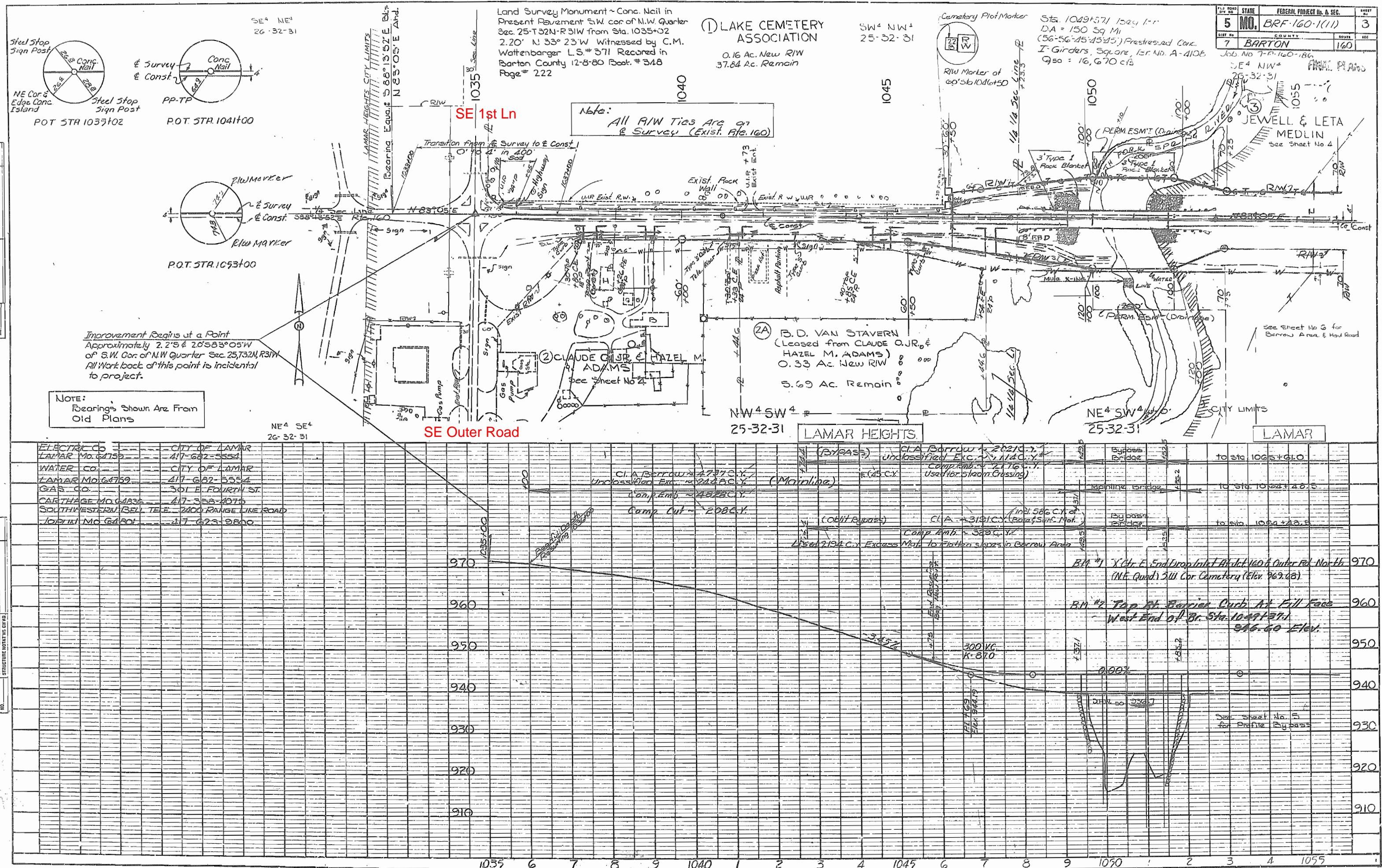
No additional area or payment will be made for PLATES which are to be included with certain signs.

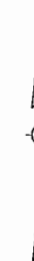
ALL PLAQUES shall have a black border. PLATES do not have a border.

SIGN	SIZE (INCHES)	AREA (SQ. FT.)	QUANTITY	TOTAL AREA (SQ. FT.)	QUANTITY RELOCATED	TOTAL RELOCATED AREA (SQ. FT.)	SIGN LEGEND
WARNING SIGNS							
W1-1L	48x48	16.0					TURN (SYMBOL LEFT ARROW)
W1-1R	48x48	16.0					TURN (SYMBOL RIGHT ARROW)
W1-2L	48x48	16.0					CURVE (SYMBOL LEFT ARROW)
W1-2R	48x48	16.0					CURVE (SYMBOL RIGHT ARROW)
W1-3L	48x48	16.0					REVERSE TURN (SYMBOL LEFT ARROW)
W1-3R	48x48	16.0					REVERSE TURN (SYMBOL RIGHT ARROW)
W1-4L	48x48	16.0	2	32.0			REVERSE CURVE (SYMBOL LEFT ARROW)
W1-4R	48x48	16.0	2	32.0			REVERSE CURVE (SYMBOL RIGHT ARROW)
W1-5	48x24	8.0					HORIZONTAL ARROW (SYMBOL)
W1-6a	72x36	18.0					HORIZONTAL ARROW (SYMBOL)
W1-7	48x24	8.0					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
W1-7a	72x36	18.0					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
W1-8	18x24	3.0					CHEVRON (SYMBOL)
W3-1	48x48	16.0					STOP AHEAD
W3-2	48x48	16.0					YIELD AHEAD
W3-3	48x48	16.0					SIGNAL AHEAD (SYMBOL)
W3-3X	24x18	3.0					SIGNAL AHEAD (PLAQUE)
W3-4	48x48	16.0					BE PREPARED TO STOP
W5-1	48x48	16.0					ROAD NARROWS
W5-3	48x48	16.0					ONE LANE BRIDGE
W6-1	48x48	16.0					DIVIDED HIGHWAY
W6-2	48x48	16.0					DIVIDED HIGHWAY ENDS
W6-3	48x48	16.0					TWO WAY TRAFFIC
W8-1	48x48	16.0					BUMP
W8-2	48x48	16.0					DIP
W8-3	48x48	16.0					PAVEMENT ENDS
W8-4	48x48	16.0					SOFT SHOULDER
W8-5	48x48	16.0					SLIPPERY WHEN WET (SYMBOL)
W8-5X	24x18	3.0					SLIPPERY WHEN WET (PLAQUE)
W8-6	48x48	16.0					TRUCK CROSSING
W8-7	48x48	16.0					LOOSE GRAVEL
W8-9	48x48	16.0					LOW SHOULDER
W9-1	48x48	16.0					RIGHT LANE ENDS (Includes LEFT/CENTER plate)
W9-2	48x48	16.0					LANE ENDS MERGE RIGHT (Includes LEFT plate)
W10-1	42 Diameter	9.6					RAILROAD CROSSING
W12-1	24x24	4.0					DOUBLE DOWN ARROW (SYMBOL)
W12-2	48x48	16.0					LOW CLEARANCE (SYMBOL)
W12-2X	24x18	3.0					LOW CLEARANCE (PLAQUE)
W12-3	144x24	24.0					OVERHEAD LOW CLEARANCE (FEET AND INCHES)
W13-1	24x24	4.0	4	16.0			ADVISORY SPEED PLAQUE
W20-1	48x48	16.0	4	64.0			ROAD CONSTRUCTION AHEAD (Includes RAMP/BRIDGE plate)
W20-2	48x48	16.0	2	32.0			DETOUR AHEAD (Includes 500 FT./1000 FT. plate)
W20-3	48x48	16.0					ROAD CLOSED AHEAD (Includes 500 FT./1000 FT. plate)
W20-4	48x48	16.0	2	32.0			ONE LANE ROAD AHEAD
W20-5	48x48	16.0					RIGHT LANE CLOSED AHEAD (Includes LEFT/CENTER plate)
W20-6	48x48	16.0					RIGHT LANE CLOSED (Includes LEFT/CENTER plate)
W20-7	48x48	16.0	2	32.0			FRESH OIL
W20-9	48x48	16.0	5	80.0			SHOULDER WORK AHEAD
W21-2	48x48	16.0					SAND BLASTING
W21-5	48x48	16.0					1000 FT.-1500 FT. (BACK TO BACK DISTANCE PLAQUE)
W21-7	36x36	9.0					200 FT.-500 FT. (BACK TO BACK DISTANCE PLAQUE)
W21-1	24x6	1.0					1/2 MILE-1 MILE (BACK TO BACK DISTANCE PLAQUE)
W25-2	24x6	1.0					
W25-2a	24x6	1.0					

SIGN	SIZE (INCHES)	AREA (SQ. FT.)	QUANTITY	TOTAL AREA (SQ. FT.)	QUANTITY RELOCATED	TOTAL RELOCATED AREA (SQ. FT.)	SIGN LEGEND
REGULATORY SIGNS							
R1-1	48x48	13.25					STOP
R1-2	48x48x48	6.93					YIELD
R1-2x	36x36	9.0					TO ONCOMING TRAFFIC (PLAQUE)
R1-3	20x9	1.25					4-WAY (PLAQUE)
R1-5	20x9	1.25					3-WAY (PLAQUE)
R2-1	36x48	12.0					SPEED LIMIT
R2-5	36x48	12.0					REDUCED SPEED AHEAD
R3-1	36x48	12.0					NO RIGHT TURN
R3-2	36x48	12.0					NO LEFT TURN
R3-3	36x36	9.0					NO TURN
R3-4	36x48	12.0					NO U-TURN
R3-7R	30x30	6.25					RIGHT LANE MUST TURN RIGHT
R3-7L	30x30	6.25					LEFT LANE MUST TURN LEFT
R4-1	36x48	12.0					DO NOT PASS
R4-2	36x48	12.0					PASS WITH CARE
R4-7	36x48	12.0					KEEP RIGHT (HORIZONTAL ARROW)
R4-8	36x48	12.0					KEEP LEFT (HORIZONTAL ARROW)
R4-17	36x36	9.0					KEEP RIGHT
R4-18	36x36	9.0					KEEP LEFT
R5-1	30x30	6.25					DO NOT ENTER
R5-1a	30x24	5.0					WRONG WAY
R6-1L	48x18	6.0					ONE WAY ARROW (LEFT)
R6-1R	48x18	6.0					ONE WAY ARROW (RIGHT)
R6-2L	24x30	5.0					ONE WAY (LEFT)
R6-2R	24x30	5.0					ONE WAY (RIGHT)
R11-2	48x30	10.0	2	20.0			ROAD CLOSED
R11-3	60x30	12.5					ROAD CLOSED --- MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60x30	12.5					ROAD CLOSED TO THRU TRAFFIC
GUIDE SIGNS							
G20-1	60x36	15.0					ROAD CONSTRUCTION NEXT --- MILES
G20-2	60x24	10.0	2	20.0			END CONSTRUCTION
M4-8	30x15	3.13					DETOUR (PLAQUE)
M4-9R	48x36	12.0					DETOUR (RIGHT ARROW)
M4-9L	48x36	12.0					DETOUR (LEFT ARROW)
M4-10R	48x18	6.0	2	12.0			DETOUR (ARROW RIGHT)
M4-10L	48x18	6.0	2	12.0			DETOUR (ARROW LEFT)
M4-11	24x18	3.0					DETOUR ENDS
M5-1R	21x15	2.19					ADVANCE RIGHT TURN ARROW
M5-1L	21x15	2.19					ADVANCE LEFT TURN ARROW
616-10.05 CONSTRUCTION SIGNS TOTAL (SQ. FT.) 384.0							
616-10.10 RELOCATED SIGNS TOTAL (SQ. FT.)							

285-216

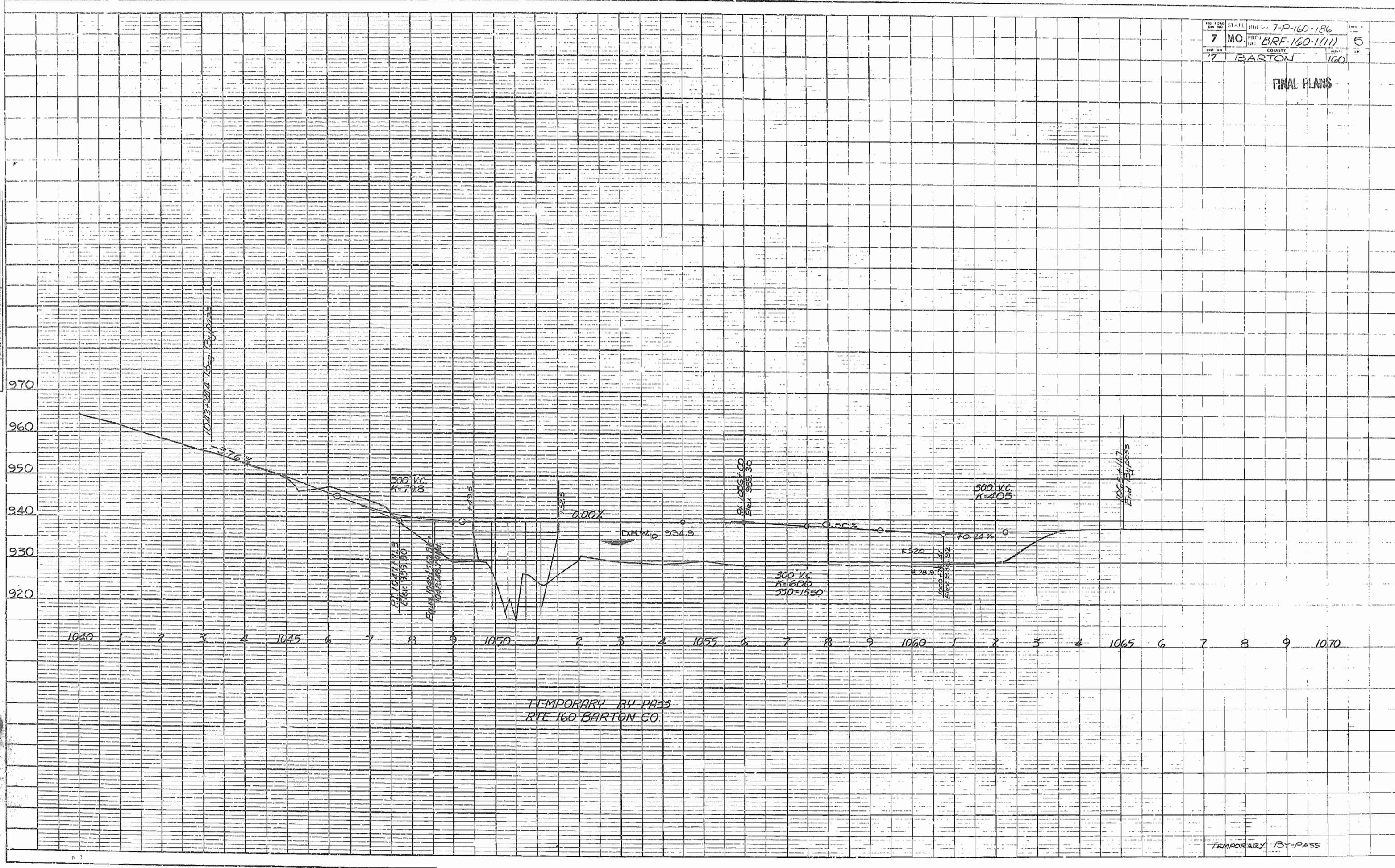




PROFILE	SURVIVED _____
NOTE BOOK _____	PLOTTED _____
	GRADES CHECKED _____
	D. R. # NOTED _____

FINAL PLANS

PROFILE
 SURVEYED
 PLOTTED
 NOTE BOOK
 BY
 DATE
 CHECKED
 BY
 DATE
 STATIONING NOTATION CHANGED



TEMPORARY BY-PASS
 RTE 160 BARTON CO.

TEMPORARY BY-PASS

219
 200

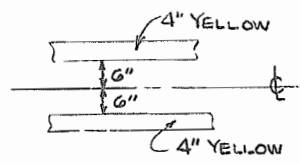
JOB NO.	STATE	PROJ. NO.	COUNTY	ROUTE	SHEET NO.
7	MO.	BRF-160-1(11)	BARTON	160	1

FINAL PLANS

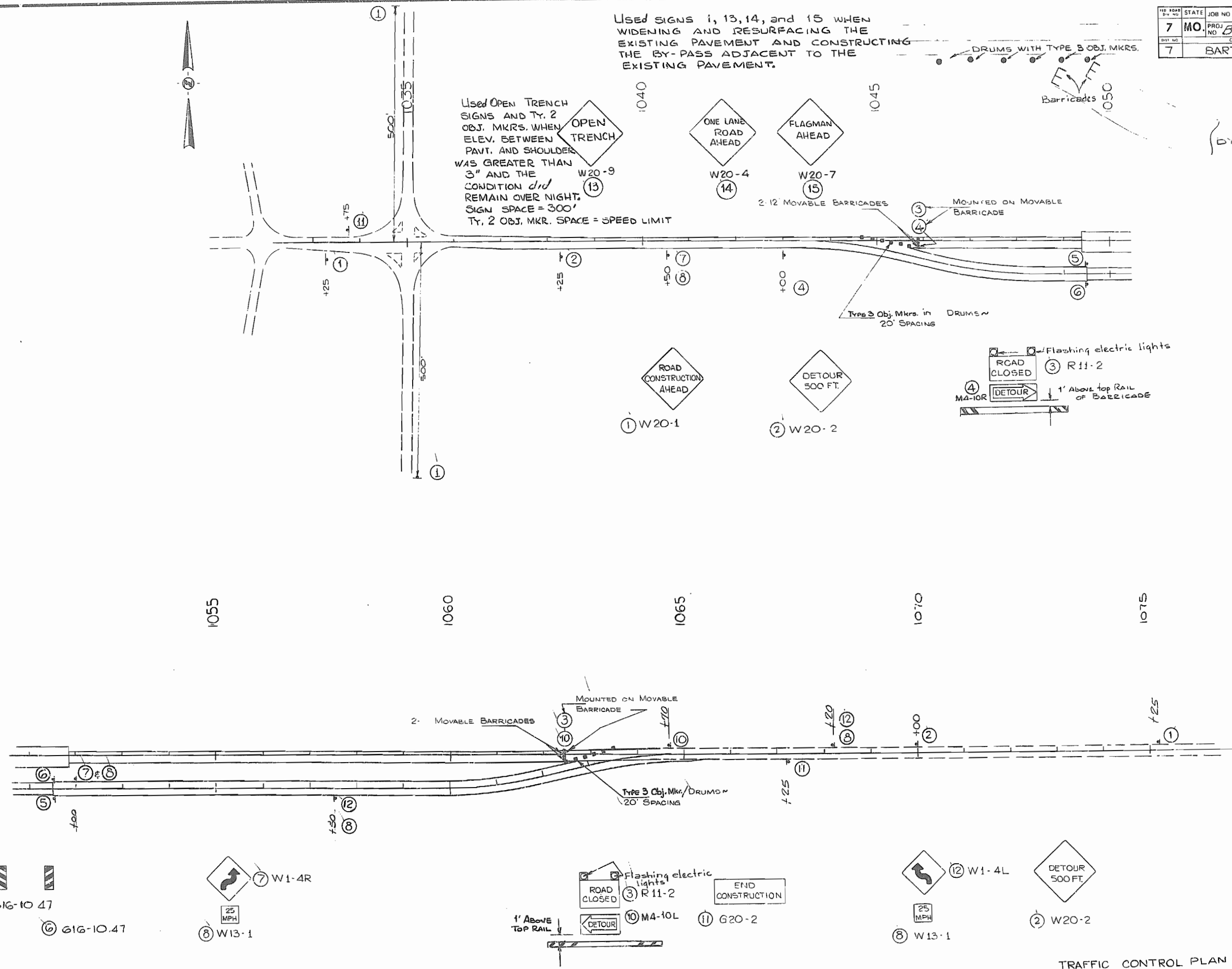
BY PASS

Used signs 1, 13, 14, and 15 when widening and resurfacing the existing pavement and constructing the by-pass adjacent to the existing pavement.

Used OPEN TRENCH SIGNS AND TY. 2 OBJ. MKRS. WHEN ELEV. BETWEEN PAVT. AND SHOULDER WAS GREATER THAN 3" AND THE CONDITION *did* REMAIN OVER NIGHT. SIGN SPACE = 300' TY. 2 OBJ. MKR. SPACE = SPEED LIMIT



STRIPE DETAIL



TRAFFIC CONTROL PLAN

DATE	BY	REVISION

DATE	BY	REVISION

2
2
2
~~0~~
2

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION STANDARD PLANS

STATE MO.	JOB NO. 7-P-160-186	SHEET NO. 186
DIST. NO. 7	PROJECT NO. BRF-160-1(11)	ROUTE 160
	COUNTY BARTON	

NOTES: Plans for this project were developed using Drawings from this index.

DESIGN DESIGNATION

A.D.T. - 1989 = 5150 E/O RTE. 2300 E/O RTE. 1150
A.D.T. - 2009 = 6700 3270 1750

D.H.V. = %
T = % 4% 8% 12%
V = 50 M.P.H.

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION PLANS FOR PROPOSED STATE HIGHWAY

FEDERAL AID PROJECT
BARTON COUNTY

FINAL PLANS



COUNTY BARTON
ROUTE 160
PROJECT F-160-1(15)
JOB NO. 7-P-160-400








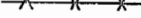





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LENGTH OF PROJECT

END OF PROJECT	STA. 539+12.1
BEGINNING OF PROJECT	STA. 1115+73.9
APPARENT LENGTH	57661.8 FEET
EQUATIONS AND EXCEPTIONS	
EXCEPTION	1353+00 TO 1379+02.5 -2602.5
EQUATIONS	
1382+00 BK. = 1382+71.3 AHD.	-71.3
1450+48.5 BK. = 1450+33.4 AHD.	+15.1
1640+49.9 BK. = 539+12.1 AHD.	+110137.8
TOTAL CORRECTIONS	+107479.1 FEET
NET LENGTH OF PROJECT	49817.3 FEET
STATE LENGTH	9.435 MILES
FEDERAL LENGTH	9.435 MILES

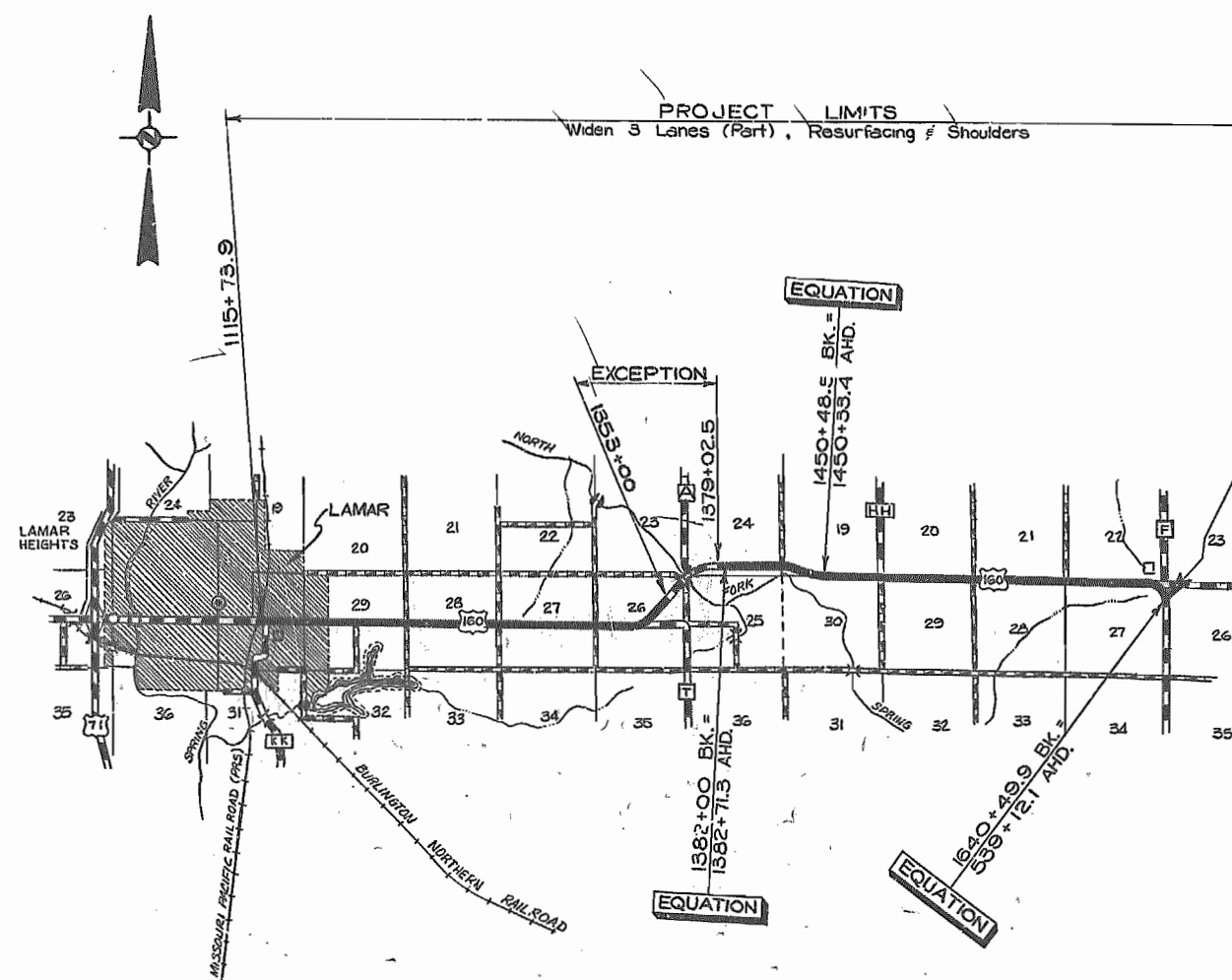
CONVENTIONAL SIGNS (USED IN PLANS)

BUILDINGS AND STRUCTURES	
GUARD RAIL	
CONCRETE RIGHT-OF-WAY MARKER	
STEEL RIGHT-OF-WAY MARKER	
FENCE	
CHAIN LINK	
WOVEN WIRE	
GATE	
UTILITIES	
TELEPHONE (OVERHEAD)	
POWER	
GAS	
WATER	
SEWER	
TELEPHONE (Underground)	

TITLE SHEET LEGEND

IDENTIFICATION SIGNS (2 REQUIRED) ☐

NOTE: DASHED OR OPEN SYMBOL INDICATES EXISTING FEATURE



Scale: 1" = 1 Mile

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

SUBMITTED
Deane Mesi 12-19-88
CHIEF ENGINEER DATE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

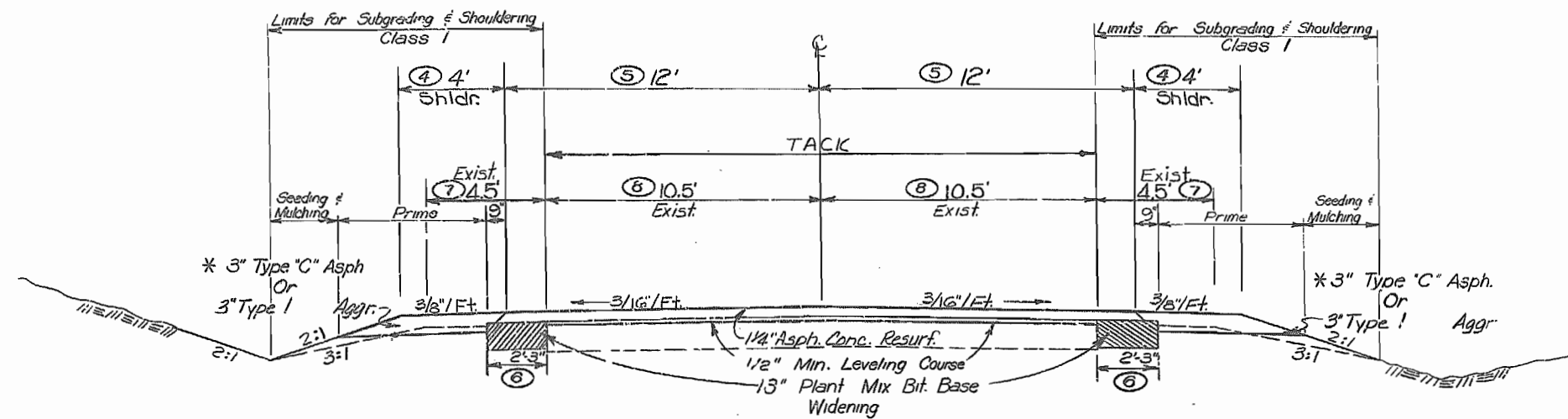
APPROVED

DIVISION ADMINISTRATOR DATE



459

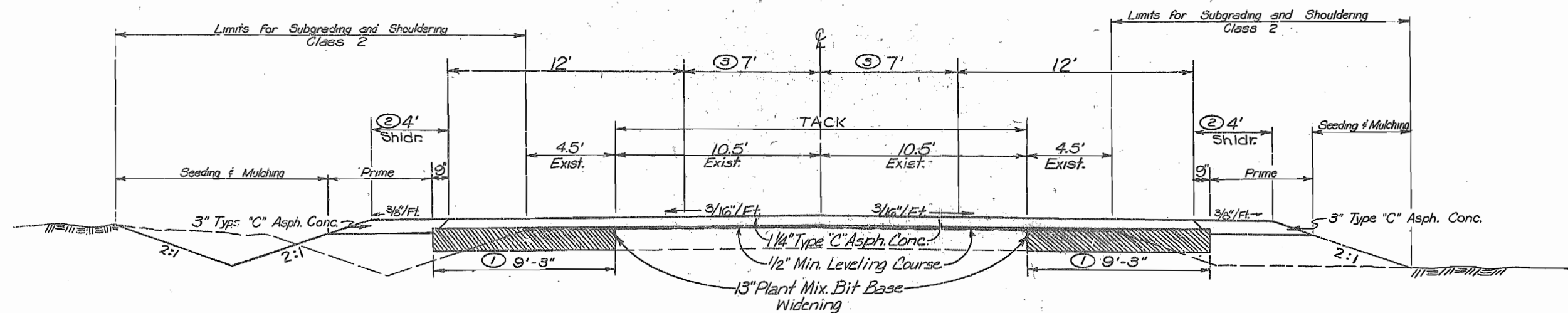
STATE	JOB NO.	SHEET NO.
MO.	7-P-160-400	2
DIS. NO.	PROJECT NO.	ROUTE
7	F-160-1(15)	160
	COUNTY	
	BARTON	



TYPICAL SECTION

STA. 1157+94.39 to STA. 1353+00
STA. 1379+02.5 to STA. 540+37.1

- ④ * Transition From 1'-0" @ 1350+03.3 to 0'-0" @ 1350+62.6
Transition from 4'-0" @ 539+57.12 to 4'-6" @ 539+79.6
4'-6" From 539+79.6 to 540+37.1
- ⑤ Transition From 12'-0" @ 1640+49.9 Bk. = 539+12.1 Ahd. to 10'-6" @ 539+79.6
10'-6" From 539+79.6 to 540+37.1
- ⑥ Transition From 2'-3" @ 1640+49.9 Bk. = 539+12.1 Ahd. to 0'-9" @ 539+79.6
- ⑦ Varies From 4'-6" @ 1350+03.3 to 8'-0" @ 1353+00
Varies From 8'-0" @ 1379+02.5 to 5'-6" @ 1383+71.3
- ⑧ Varies From 10'-6" @ 1350+03.3 to 12'-0" @ 1353+00
Varies From 12'-0" @ 1379+02.5 to 10'-6" @ 1383+71.3

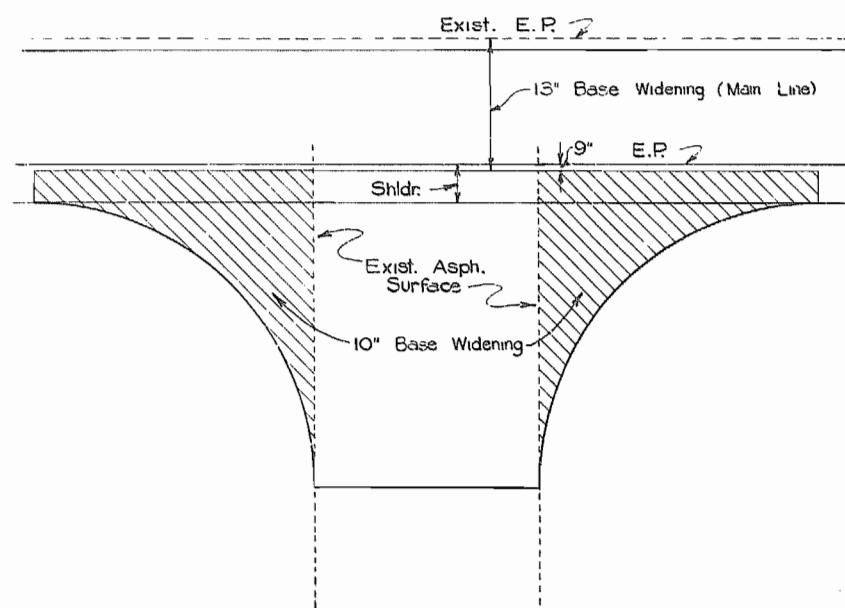


TYPICAL SECTION

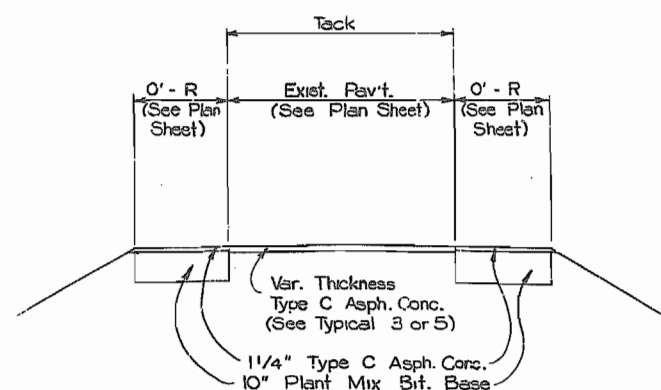
STA. 1115+73.9 to STA. 1157+94.39

- ① Transition from 2'-3" @ 1115+73.9 to 9'-3" @ 1117+40
Transition from 9'-3" @ 1154+44.39 to 2'-3" @ 1157+94.39
- ② Asph. Shldr. end @ 1148+00 ±. Beg. 3" Aggr. Shldr.
- ③ Transition from 0'-0" @ 1115+80 to 7'-0" @ 1117+40
Transition from 7'-0" @ 1154+44.39 to 0'-0" @ 1157+94.39

ORIGINAL	SUBMITTED	BY	DATE
SURVIVAL	POSTED		
NOTE	DOE		
	REMARKS		
	AREAS		
	AREAS		
	REMARKS		



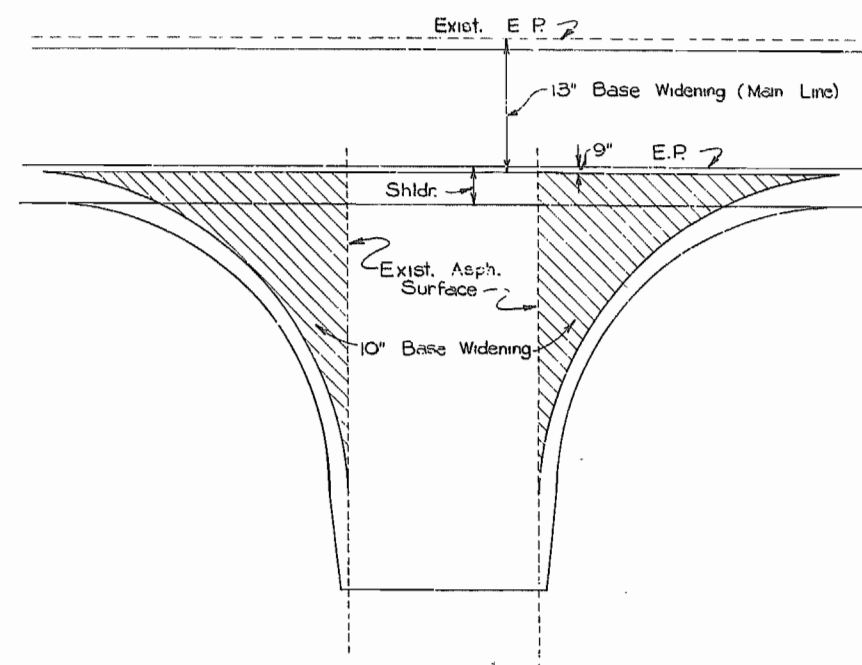
PLAN		VIEW
Bit.	Base	Typical 8



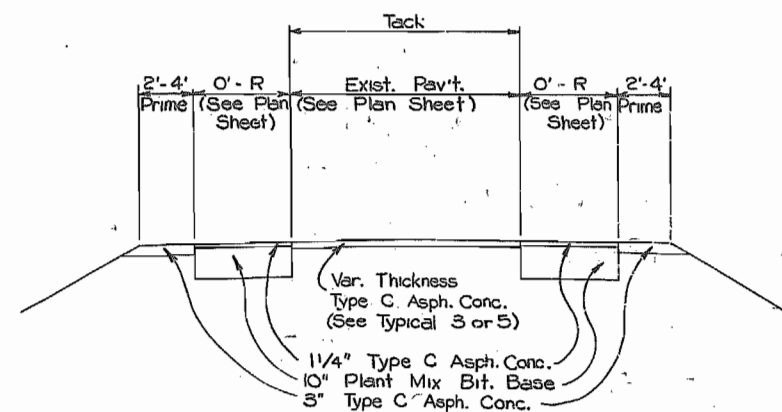
TYPICAL		SECTION	
Bit.	Base	Typical	8

LOCATIONS:

1117+10.5 Rt. Parry St. (East Radius)
1119+24 Lt. Lexington St.
1126+70 Lt. Jefferson St.
1140+95 Lt. & Rt. Hagry St.



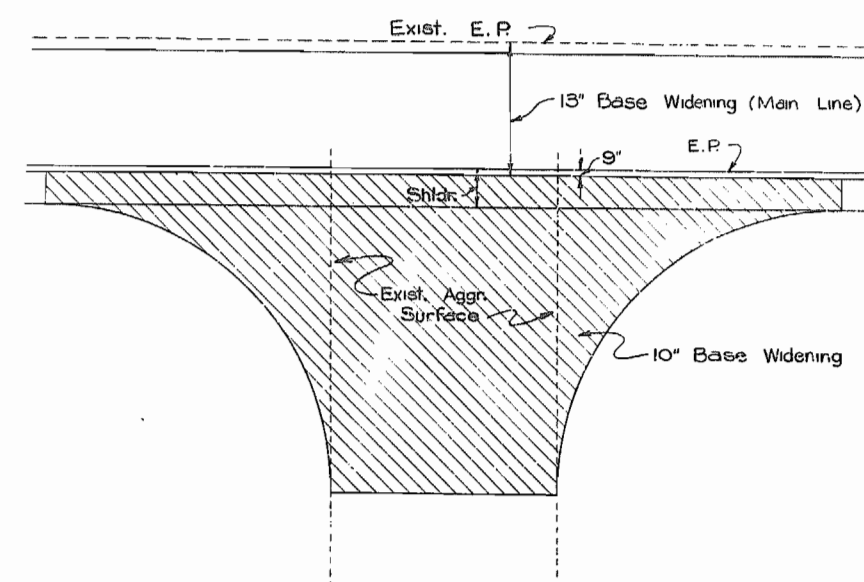
PLAN VIEW
Bit. Base Typical 



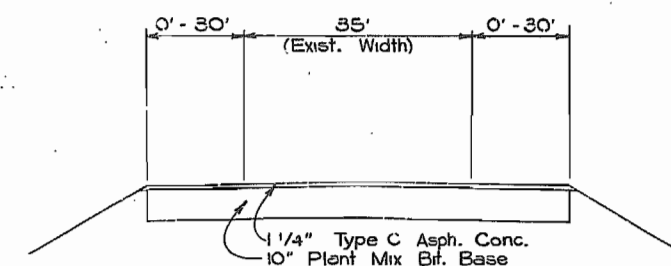
TYPICAL		SECTION
Bit.	Base	Typical
		9

LOCATIONS :

1119+30.9	Rt.	Rts. KK
1123+07	Lt.	Jackson St.
1126+70	Rt.	College St.
1130+23	Rt.	Heagon. St.
1135+22	Rt.	Francis St.
1144+58	Lt.	Arthur Aull Dr.
1147+98	Lt.	Allen Dr.
1154+14	Lt.	Howard Dr.



PLAN		VIEW	
Bit.	Base	Typical	(10)



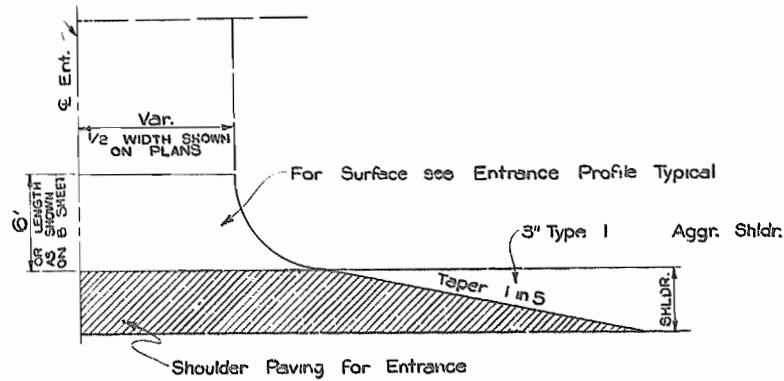
TYPICAL		SECTION
Bit.	Base	Typical
10	10	10

LOCATION:

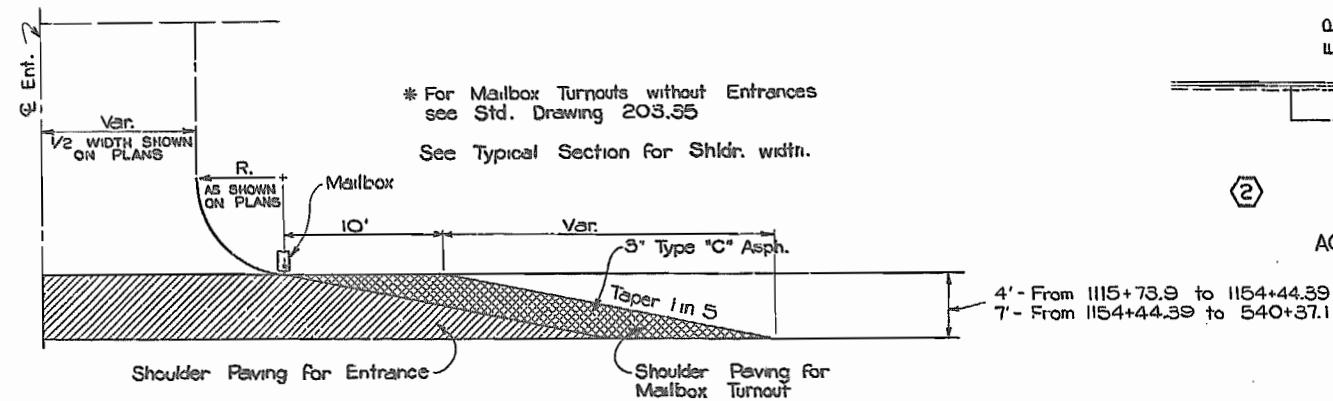
1154+14 Rt. Howard Dr.

FINAL PLANS

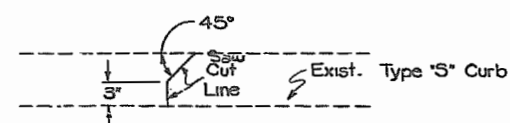
STATE	JOB NO. 7-P-160-400	SHEET NO. 2
MO.	PROJECT NO. F-160-1(15)	ROUTE 160
DIST. NO. 7	COUNTY BARTON	



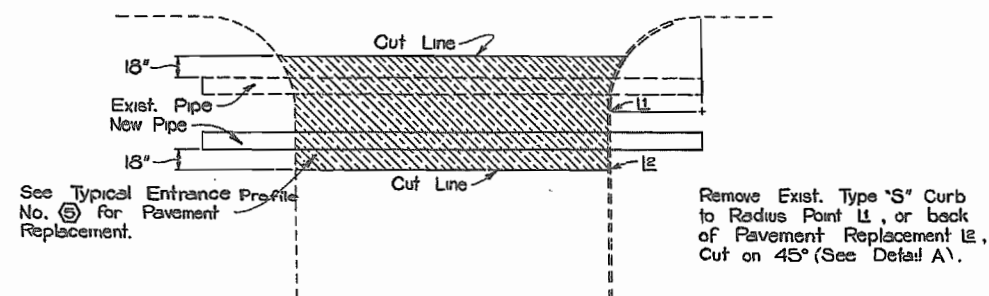
TYPICAL ENTRANCE HALF SECTION
PLAN VIEW



TYPICAL SECTION
MAILBOX TURNOUTS @ ENTRANCE * LOC.
PLAN VIEW

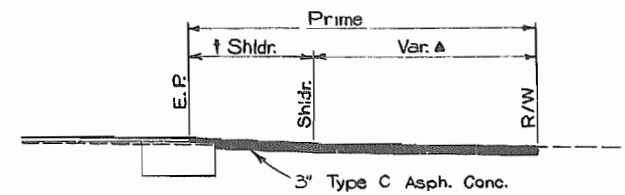


DETAIL A

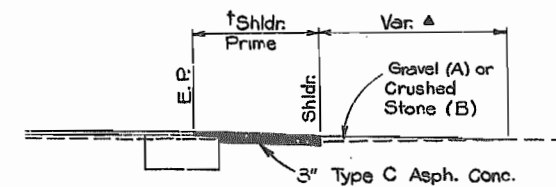


TYPICAL SECTION
PIPE REPLACEMENT OF EXIST. U.I.P. CONC. & ASPH.
ENTRANCES

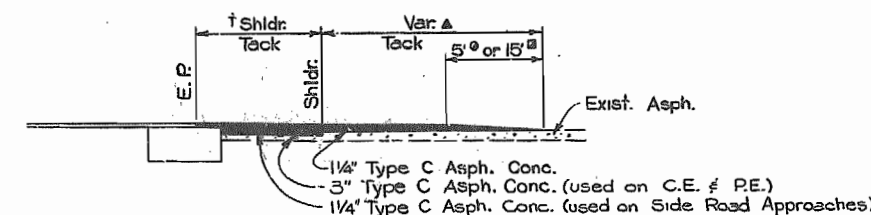
PLAN VIEW



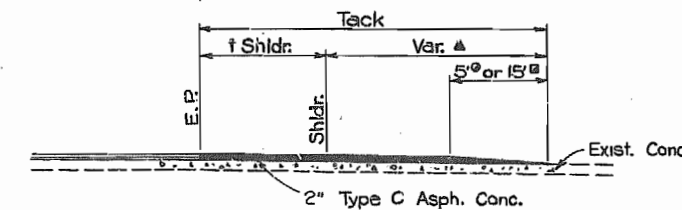
① TYPICAL PROFILE
FOR
ASPH. ENT. OVER EXIST. AGGR. ENT.



② TYPICAL PROFILE
FOR
AGGR. ENT. & APPROACHES

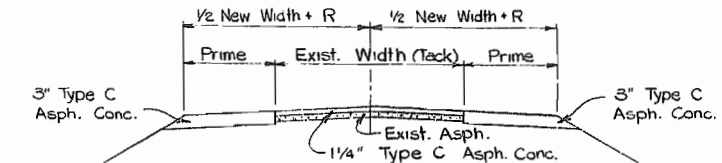


③ TYPICAL PROFILE
FOR
EXIST. ASPH. ENT. & APPROACHES

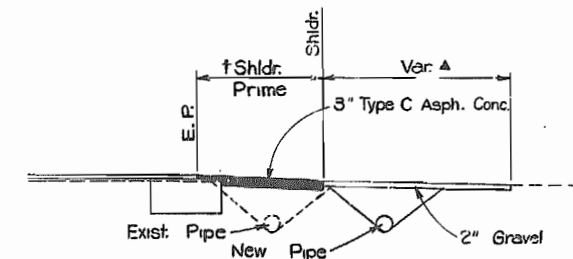


④ TYPICAL PROFILE
FOR
EXISTING CONCRETE ENTRANCE

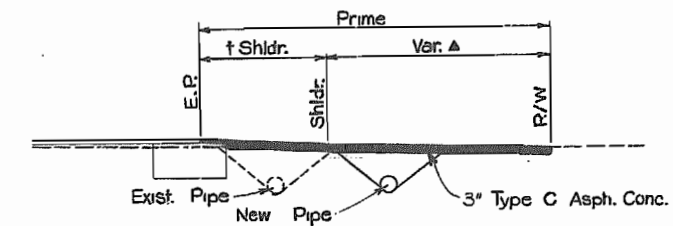
- † - See Typical Section
- Δ - Length Shown on B Sheet
- - Taper for C.E. and P.E.
- - Taper for Side Road



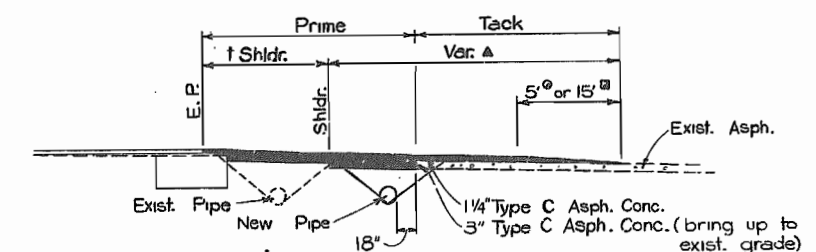
TYPICAL SECTION
EXIST. ASPH. ENT.



⑦ TYPICAL PROFILE
FOR
AGGR. ENT. & APPROACHES
WITH PIPE REPLACEMENT



⑥ TYPICAL PROFILE
FOR
ASPH. ENT. & APPROACHES OVER EXIST. AGGR.
WITH PIPE REPLACEMENT



⑤ TYPICAL PROFILE
FOR
EXIST. ASPH. ENT. & APPROACHES
WITH PIPE REPLACEMENT

TYPICAL SECTION
SHEET 3 OF 3

FINAL PLANS

STATE MO.	JOB NO. 7-P 160-400	SHEET NO. 2A
DIST. NO. 7	PROJECT NO. F-160-1(15)	ROUTE 160
	COUNTY BARTON	

SHEET / OF /

[illegible]

ITEM	DESCRIPTION	UNIT	QUANTITY
202-20.10	REMOVAL OF IMPROVEMENTS	LUMP SUM	1
206-30.00	CLASS 3 EXCAVATION	CU YD	180
212-10.00	SUBGRADING AND SHOULDERING CLASS 1	STATION	450.3
212-20.00	SUBGRADING AND SHOULDERING CLASS 2	STATION	42.2
301-30.11	ASPHALT CEMENT (BASE WIDENING) 60-70	TON	774.0
301-40.00	MINERAL AGGREGATE (BASE WIDENING)	TON	18104
304-00.33	TYPE 1 AGGREGATE FOR BASE (3 IN. THICK)	SQ YD	40,189
310-50.01	GRAVEL	CU YD	100
390-90.00	TEMPORARY SURFACING	CU YD	200
403-10.11	ASPHALT CEMENT (ASPHALTIC CONCRETE) 60-70	TON	1194.8
403-10.26	MINERAL AGGREGATE (ASPHALTIC CONCRETE) (TYPE C MIX)	TON	19405
407-10.05	TACK COAT	GALLON	4380
408-10.10	PRIME-LIQUID ASPHALT RC 70	GALLON	1370
601-10.00	FIELD LABORATORIES	LUMP SUM	1
604-40.11	PIPE COLLAR, TYPE A	EACH	1
604-40.12	PIPE COLLAR, TYPE B	EACH	1
604-40.13	PIPE COLLAR, TYPE C	EACH	2
605-20.20	CLASS B UNDERDRAIN	LIN FT	0
609-10.10	CONCRETE CURB (6 IN. HEIGHT AND UNDER) TYPE S	LIN FT	960
609-10.60	PAVED DITCH	SQ YD	7.1
609-70.00	ROCK LINING	CU YD	44
612-90.10	INSTALLING GIVE EM A BRAKE 4 FT. X 8 FT. SIGNS (SEE SPECIAL PROVISIONS)	EACH	4
612-90.20	INSTALLING GIVE EM A BRAKE 4 FT. X 4 FT. SIGNS (SEE SPECIAL PROVISIONS)	EACH	2
616-10.05	CONSTRUCTION SIGNS	SQ FT	666
616-10.20	CHANNELIZERS (DRUMS)	EACH	21
616-10.46	TYPE II OBJECT MARKER	EACH	315
616-10.47	TYPE III OBJECT MARKER	EACH	24
618-10.00	MOBILIZATION	LUMP SUM	1
622-10.00	TEMPORARY PAVEMENT MARKING	MILE	9.5
703-20.01	CLASS B CONCRETE (CULVERTS)	CU YD	90.3
706-10.30	REINFORCING STEEL (CULVERTS)	POUND	11,430
725-10.12	12 IN. CORRUGATED METAL PIPE	LIN FT	6
725-10.15	15 IN. CORRUGATED METAL PIPE	LIN FT	30
725-10.18	18 IN. CORRUGATED METAL PIPE	LIN FT	30
726-13.12	12 IN. CLASS III REINFORCED CONCRETE PIPE CULVERT	LIN FT	85
726-13.15	15 IN. CLASS III REINFORCED CONCRETE PIPE CULVERT	LIN FT	1,624
726-13.18	18 IN. CLASS III REINFORCED CONCRETE PIPE CULVERT	LIN FT	1,264
726-13.24	24 IN. CLASS III REINFORCED CONCRETE PIPE CULVERT	LIN FT	733

[illegible]

RECEIVED
MAY 11 1990
DIV. OF CONSTRUCTION

ACCEPTED:

11-30-1989

PREPARED BY: Kenneth A. Matthews

01-08-90

RESIDENT ENGINEER: *Paul K. Kintende*

DATE:	01-08-1990
-------	------------

DISTRICT OFFICE: *Don Livers*

DATE:	3-02-90
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MAIN OFFICE: *L. J. P. H.*

DATE:	2-17-99
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156-1(15) 60 DAYTON

SUMMARY OF QUANTITIES

▲ See Typical Section Sheet 2 of 3 * Entrance Width ~ 20' Min.

1 of 3

[illegible]

2 of 3

FINAL SURVEY				BY	DATE
NOTED GOOD					
	SURVEYED				
	PLOTTED				
	TEMPLATE				
	AREAS				
	AREAS CHECKED				
NO					

FINAL SURVEY	REVIEWED	BY	DATE
	ATTACHED		
	FILED		
	AS CHIEF		

		CONC.		CURB (6" TYPE S)			
Sheet	Sta.	to	Sta.	Loc.	Length Ln. Ft.	Remarks	
3	117+85	to	117+89	Lt.	5.8	<i>All Quantities Field Meas</i>	
3	118+32	to	118+89	Lt.	68.7		
3	120+06	to	120+18	Rt.	16.7		
3	120+67	to	121+20	Rt.	70.2		
3	120+97	to	121+06	Lt.	12.5		
3	121+22	to	121+33	Lt.	14.8		
3	121+64	to	121+95	Rt.	64.0		
3	122+30	to	122+76	Rt.	34.8		
3	123+32	to	123+91	Lt.	75.5		
3	124+33	to	124+85	Lt.	66.0		
4	129+56	to	129+58	Rt.	8.9		
4	129+93	to	130+04	Rt.	17.0		
4	130+21	to	131+35	Lt.	125.0		
4	131+65	to	131+73	Lt.	14.5		
4	136+50	to	136+57	Rt.	16.0		
4	136+96	to	137+02	Rt.	13.6		
4	136+98	to	137+05	Lt.	15.0		
4	137+25	to	137+32	Lt.	14.8		
4	138+38	to	138+44	Lt.	13.6		
5	139+56	to	139+65	Lt.	16.4		
5	144+62	to	144+64	Rt.	9.0		
5	144+89	to	144+91	Rt.	13.9		
5	145+21	to	145+49	Rt.	29.9		
5	145+88	to	147+37	Rt.	170.5		
5	147+91	to	147+98	Rt.	15.5		
5	150+53	to	150+58	Rt.	15.0		
6	151+03	to	151+09	Rt.	12.4		
6	152+05	to	152+10	Rt.	10.5		
TOTAL					960.5		
USE					960		

CONC.	BOX	CULVERTS		

Sheet	Fill Ht.	Sta.	Loc.	Std. No.	Wing Slope	Size	Total Length	Skew	C.B. Conc. C.Y.	Reinf. Steel LBS.	C.I. S. Exc. C.Y.	Remarks
3	2	1125+00	E	703.21	1 1/2:1	12x5	19	0	37.3	4940	45	
3	1	1126+70	36.7' L	703.21	2:1	6x4	18	0	16.2	1960	40	Incl. 1-42" Pipe Opening
6	3	1151+82.5	E	703.21	1 1/2:1	5x3	21	0	11.4	1470	24	
	2	1300+50	E	703.16	2:1	4x6	5	0	5.9	660	17	
	2	1528+50	E	703.21	2:1	10x4	7	0	11.1	1360	23	
	2	1558+24	E	703.21	2:1	5x3	6	0	5.1	650	10	
	3	1593+45	E	703.30	2:1	4x2.5	6	0	3.3	390	9	
TOTALS									90.3	11430	168	

CLASS	III	R.C.P.
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Sheet	Sta.	Loc.	36"	42"	F.E.S. Pipe Collar 36" Type C	Cl. 3 Exc. C.Y.
3	1126+89	Lt.		14"		
	1416+58	C	10'		2'	8
	TOTALS		10'	14'	2' 2'	8

PAVED			DITCH			
Sheet	Sta.	to	Sta.	Loc.	Dimension	S.Y.
4	1129+26	to	1129+34	Lt.	8' x 8'	7.1
TOTAL						7.1

		ROCK LINING						
Sheet	Sta.	Loc.	CULV. SIZE	Depth	Width	Length	C.Y.	Remarks
3	1125+00	Rt.	12' x 5'	3'	36'	6'	24.0'	See Culv. Sheet # 15
	1300+50	Lt.	4' x 6'	2'	20'	9'	13.3'	See Culv. Sheet # 16
	1416+58	Rt.	36" FES	1.5'	9'	14.5'	7.2'	See Culv. Sheet # 16
TOTAL							44.5'	
USE							44.0'	

UNPERFORATED CLASS "B" UNDERDRAIN PIPE							
Sheet	Sta.	to	Sta.	Size	Length	Cl. 3 Exc. C.Y.	Remarks
4	1131+59	to	1131+66	8"	0'	12	Includes 45° Elbow
4	1133+55	to	1133+64	8"	0'	12	Includes 1-45° Elbow & 1- 25° Elbow
				TOTALS	0'	4	
				USED	PVC PIPE	SEE CHANGE ORDER #1	

CLEARING & GRUBBING

To Be Included in	Other	Costs
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SUMMARY OF QUANTITIES

FINAL PLANS

STATE	JOB NO.	7-P-160-400	SHEET NO.
MC.	PROJECT NO.	F-160-1(15)	2B
DIST. NO.	COUNTY	BARTON	ROUTE
7			160

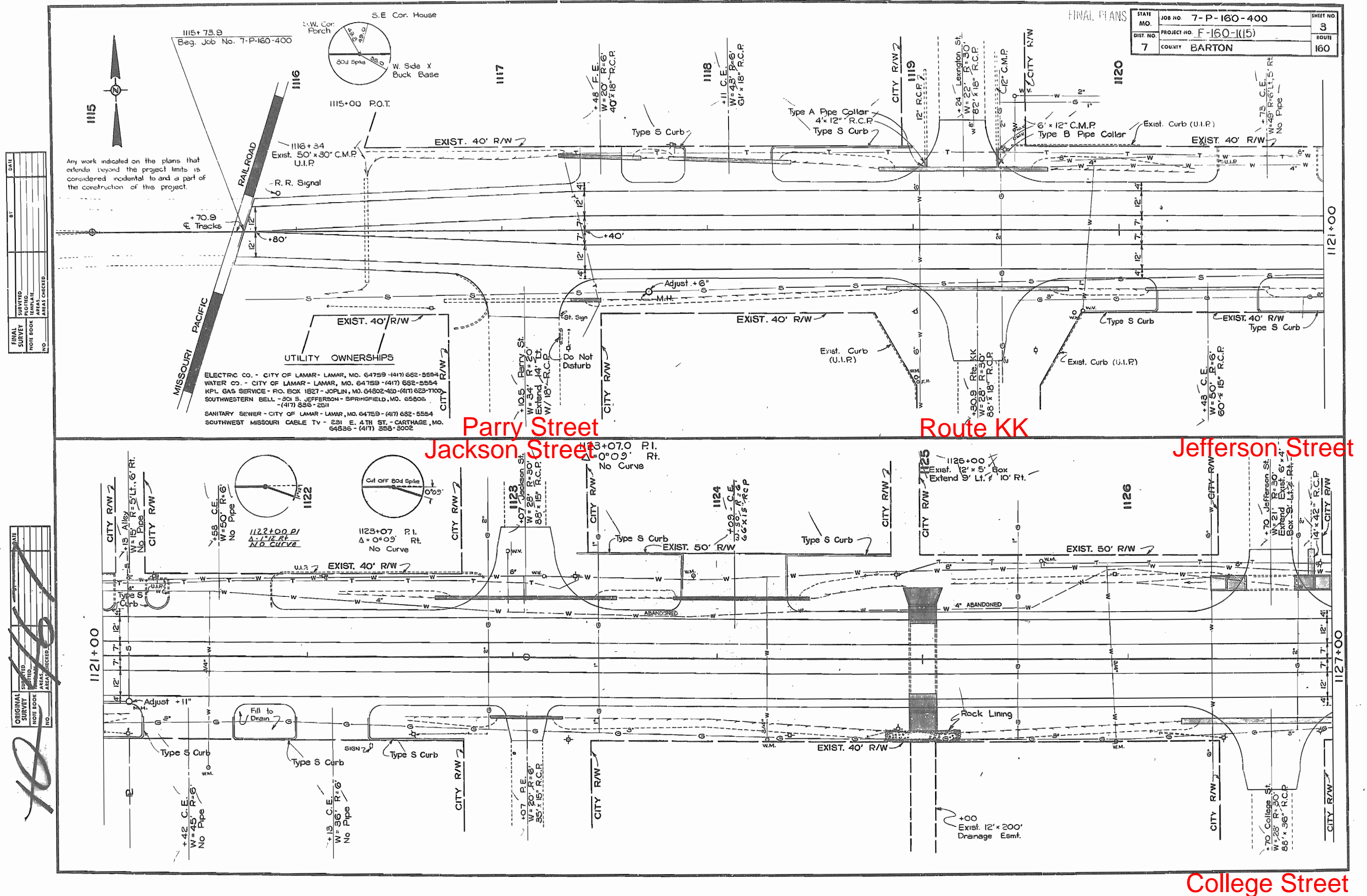
SHEET 3 OF 3

SIGN	SIZE (INS)	AREA (SQ FT)	QTY	TOTAL AREA (SQ FT)	QTY. RELOC.	TOTAL RELOC. AREA (SQ FT)	DESCRIPTION
WARNING SIGNS							
WO1-1Lb	48x48	16.0					TURN (SYMBOL LEFT ARROW)
WO1-1Rb	48x48	16.0					TURN (SYMBOL RIGHT ARROW)
WO1-2Lb	48x48	16.0					CURVE (SYMBOL LEFT ARROW)
WO1-2Rb	48x48	16.0					CURVE (SYMBOL RIGHT ARROW)
WO1-3Lb	48x48	16.0					REVERSE TURN (SYMBOL LEFT ARROW)
WO1-3Rb	48x48	16.0					REVERSE TURN (SYMBOL RIGHT ARROW)
WO1-4Lb	48x48	16.0					REVERSE CURVE (SYMBOL LEFT ARROW)
WO1-4Lb2	48x48	16.0					DOUBLE ARROW REVERSE CURVE (SYMBOL LEFT ARROWS)
WO1-4Rb	48x48	16.0					REVERSE CURVE (SYMBOL RIGHT ARROW)
WO1-4Rb2	48x48	16.0					DOUBLE ARROW REVERSE CURVE (SYMBOL RIGHT ARROWS)
WO1-6	48x24	8.0					HORIZONTAL ARROW (SYMBOL)
WO1-6a	72x36	18.0					HORIZONTAL ARROW (SYMBOL)
WO1-7	48x24	8.0					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-7a	72x36	18.0					DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)
WO1-8	18x24	3.0					CHEVRON (SYMBOL)
WO3-1b	48x48	16.0					STOP AHEAD
WO3-2b	48x48	16.0					YIELD AHEAD
WO3-3b	48x48	16.0					SIGNAL AHEAD (SYMBOL)
WO3-4b	48x48	16.0					BE PREPARED TO STOP
WO4-1Lb	48x48	16.0					MERGE (SYMBOL FROM LEFT)
WO4-1Rb	48x48	16.0					MERGE (SYMBOL FROM RIGHT)
WO5-1a	48x48	16.0					ROAD NARROWS
WO5-3a	48x48	16.0					ONE LANE BRIDGE
WO6-1b	48x48	16.0					DIVIDED HIGHWAY
WO6-2b	48x48	16.0					DIVIDED HIGHWAY ENDS
WO6-3b	48x48	16.0					TWO WAY TRAFFIC (SYMBOL)
WO6-3x	24x18	3.0					TWO WAY TRAFFIC (PLAQUE)
WO8-1b	48x48	16.0					BUMP
WO8-2b	48x48	16.0					DIP
WO8-3	48x48	16.0					PAVEMENT ENDS
WO8-4b	48x48	16.0					SOFT SHOULDER
WO8-5b	48x48	16.0					SLIPPERY WHEN WET (SYMBOL)
WO8-6b	48x48	16.0					TRUCK CROSSING
WO8-6c	48x48	16.0					TRUCK ENT. (Includes 1000 FT./1500 FT. plate WO25-1a)
WO8-7a	36x36	9.0					LOOSE GRAVEL
WO8-9	48x48	16.0					LOW SHOULDER
WO8-9La	48x48	16.0					UNEVEN PAVEMENT (SYMBOL FOR LEFT DROPOFF)
WO8-9Ra	48x48	16.0					UNEVEN PAVEMENT (SYMBOL FOR RIGHT DROPOFF)
WO9-1R	48x48	16.0					RIGHT LANE ENDS (Includes LEFT/CENTER plate WO25-3c)
WO9-2Ra	48x48	16.0					LANE ENDS MERGE RIGHT (Includes LEFT plate WO25-3b)
W10-1a	42 Dia.	9.6					RAILROAD CROSSING
WO12-1	24x24	4.0					DOUBLE DOWN ARROW (SYMBOL)
WO12-2a	48x48	16.0					LOW CLEARANCE (SYMBOL)
WO12-2x	24x18	3.0					LOW CLEARANCE (PLAQUE)
WO12-3a,b	144x24	24.0					OVERHEAD LOW CLEARANCE (FEET AND INCHES)
WO13-1a	24x24	4.0					ADVISORY SPEED (PLAQUE)
WO20-1	48x48	16.0					ROAD CONST. AHEAD (Incl. RAMP/BIDGE plate WO25-6)
WO20-2	48x48	16.0					DETOUR AHEAD (Includes 500 FT./1000 FT. plate WO25-1b)
WO20-3	48x48	16.0					RD. CLOSED AHEAD (Incl. 500 FT./1000 FT. plate WO25-1c)
WO20-4a	48x48	16.0					ONE LN. RD. AHD (Incl. 1000 FT./1500 FT. plate WO25-1a)
WO20-5	48x48	16.0					RT. LN. CLOSED AHEAD (Incl. LEFT/CENTER plate WO25-3d)
WO20-6a	48x48	16.0					RIGHT LANE CLOSED (Incl. LEFT/CENTER plate WO25-3c)
WO20-7a	48x48	16.0					FLAGMAN AHEAD (Incl. 500 FT./1000 FT. plate WO25-1b)
WO20-8	36x18	4.5					WORKERS AHEAD
WO20-9c	48x48	16.0					OPEN TRENCH
WO21-2b	48x48	16.0					FRESH OIL
WO21-5b	48x48	16.0					SHOULDER WORK AHEAD
WO21-7	36x36	9.0					SAND BLASTING
WO22-1	48x48	16.0					BLASTING ZONE 1000 FT.
WO22-2	42x36	10.5					TURN OFF 2-WAY RADIO
WO22-3	42x36	10.5					END BLASTING ZONE
WO25-1a	26x9						1000 FT./1500 FT. Plate
WO25-1b	38x9						500 FT./1000 FT. Plate
WO25-1c	34x9						500 FT./1000 FT. Plate
WO25-3b	39x9						LEFT Plate
WO25-3c	33x9						LEFT/CENTER Plate

SIGN	SIZE (INS)	AREA (SQ FT)	QTY	TOTAL AREA (SQ FT)	QTY. RELOC.	TOTAL RELOC. AREA (SQ FT)	DESCRIPTION
REGULATORY SIGNS							
WO25-3d	22x9						LEFT/CENTER Plate
WO25-5	30x12	2.5					1/2 MILE/1 MILE (PLAQUE)
WO25-6	28x9						RAMP/BIDGE Plate
R1-1b	48x48	13.25					STOP
R1-2a	48x48x48	6.93					YIELD
R1-3	20x9	1.25					4-WAY (PLAQUE)
R1-5	20x9	1.25					3-WAY (PLAQUE)
R2-1b	36x48	12.0					SPEED LIMIT XX 30, 30, 40, 55, 55, 55
R2-5	36x48	12.0					REDUCED SPEED AHEAD
R3-1b	36x48	12.0					NO RIGHT TURN
R3-2b	36x48	12.0					NO LEFT TURN
R3-3a	36x36	9.0					NO TURNS
R3-4b	36x48	12.0					NO U-TURN
R3-7L	30x30	6.25					LEFT LANE MUST TURN LEFT
R3-7R	30x30	6.25					RIGHT LANE MUST TURN RIGHT
R4-1b	36x48	12.0					DO NOT PASS
R4-2b	36x48	12.0					PASS WITH CARE
R4-7Lb	36x48	12.0					KEEP LEFT (HORIZONTAL ARROW)
R4-7Rb	36x48	12.0					KEEP RIGHT (HORIZONTAL ARROW)
R4-17L	36x36	9.0					KEEP LEFT
R4-17R	36x36	9.0					KEEP RIGHT
R5-1	30x30	6.25					DO NOT ENTER
R5-1a	36x24	6.0					WRONG WAY
R6-1La	48x18	6.0					ONE WAY ARROW (LEFT)
R6-1Ra	48x18	6.0					ONE WAY ARROW (RIGHT)
R6-2La	24x30	5.0					ONE WAY (LEFT)
R6-2Ra	24x30	5.0					ONE WAY (RIGHT)
R11-2	48x30	10.0					ROAD CLOSED
R11-3	60x30	12.5					ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY
R11-4	60x30	12.5					ROAD CLOSED TO THRU TRAFFIC
R12-3b	36x36	9.0					TO ONCOMING TRAFFIC (PLAQUE)
R20-1	36x18	4.5					WHEN FLASHING
GUIDE SIGNS							
GO20-1	60x36	15.0					ROAD CONSTRUCTION NEXT XX MILES
GO20-2	60x24	10.0					END CONSTRUCTION
MO4-8a	30x15	3.13					DETOUR (PLAQUE)
MO4-9L	48x36	12.0					DETOUR (LEFT ARROW)
MO4-9R	48x36	12.0					DETOUR (RIGHT ARROW)
MO4-10L	48x18	6.0					DETOUR (ARROW LEFT)
MO4-10R	48x18	6.0					DETOUR (ARROW RIGHT)
MO4-11	24x18	3.0					DETOUR ENDS
M5-1L	21x15	2.19					ADVANCE LEFT TURN ARROW
M5-1R	21x15	2.19					ADVANCE RIGHT TURN ARROW
MISCELLANEOUS SIGNS							
616-10.05 CONSTRUCTION SIGNS TOTAL 666							
616-10.10 RELOCATED SIGNS TOTAL							

ITEM NO.	SIZE (INS)	TOTAL QTY.	DESCRIPTION
616-10.20	36x18	21	CHANNELIZER (DRUM)
616-10.35	8x24		TYPE I BARRICADE (One Rails)
616-10.36	8x24		TYPE II BARRICADE (Two Rails)
616-10.40	36x72		FLASHING ARROW PANEL
616-10.45	18x18		TYPE I OBJECT MARKER
616-10.46	6x12	315	TYPE II OBJECT MARKER
616-10.47	8x24	24	TYPE III OBJECT MARKER
616-10.50	8		FLASHING ELECTRIC LIGHT
616-10.51	---		WARNING LIGHT TYPE A
616-10.52	---		WARNING LIGHT TYPE B
616-10.53	---		WARNING LIGHT TYPE C
616-10.54	---		STROBE LIGHT
616-10.60	---		RAISED PAVEMENT MARKER
616-10.70	26		FLEXIBLE DELINEATOR
612-10.30	72x144		MOVABLE BARRICADE (Three Rails)

Lexington Street

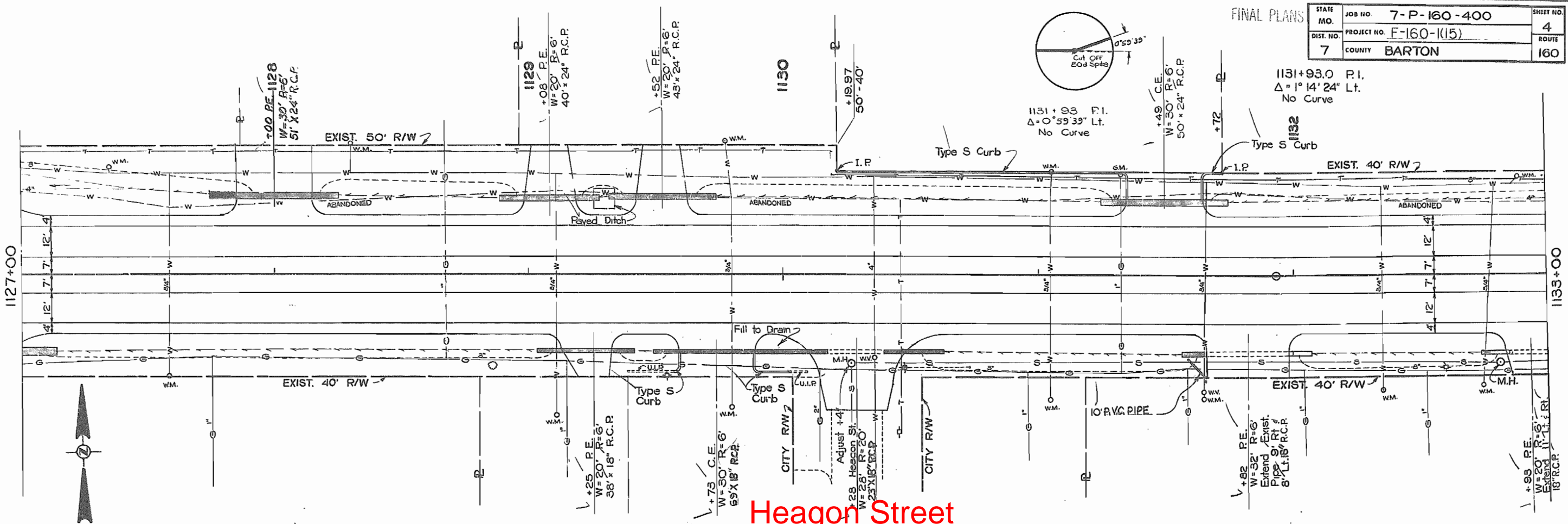


FINAL SURVEY	DATE	BY
SURVEYED		
NOTED		
PLOTTED		
AREAS		
CHECKED		
NO		

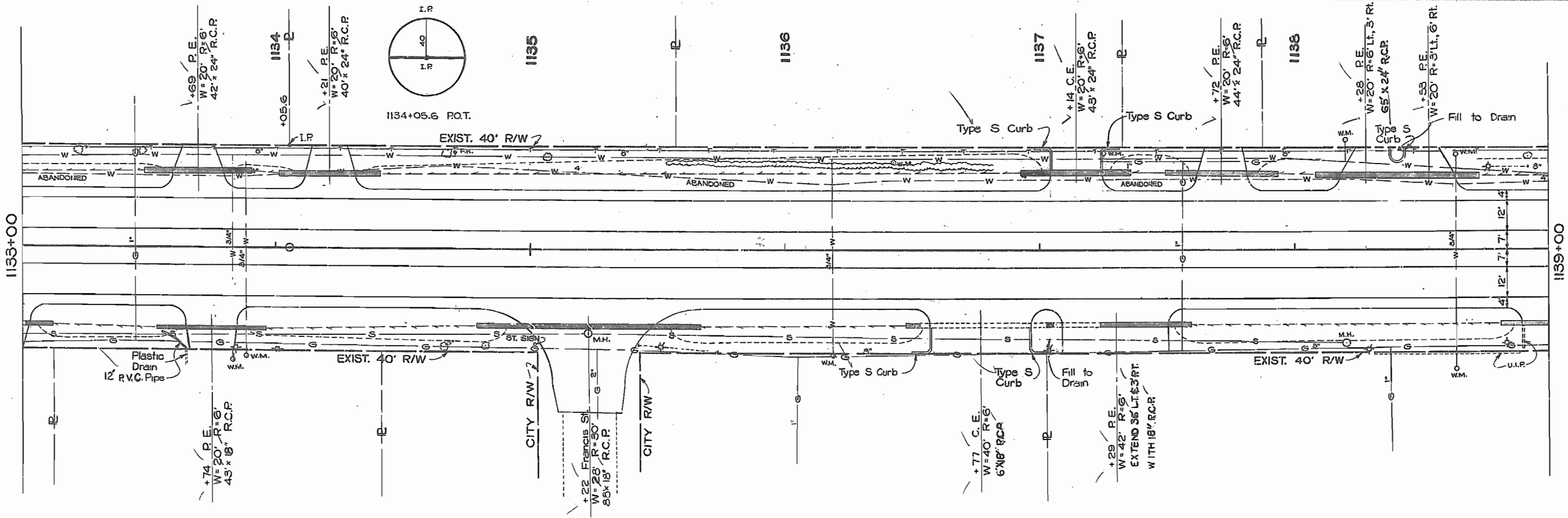
ORIGINAL SURVEY	DATE	BY
SURVEYED		
NOTED		
PLOTTED		
AREAS		
CHECKED		
NO		

FINAL PLANS

STATE MO.	JOB NO.	7-P-160-400	SHEET NO.	4
DIST. NO.	PROJECT NO.	F-160-1(15)	ROUTE	160
7	COUNTY	BARTON		

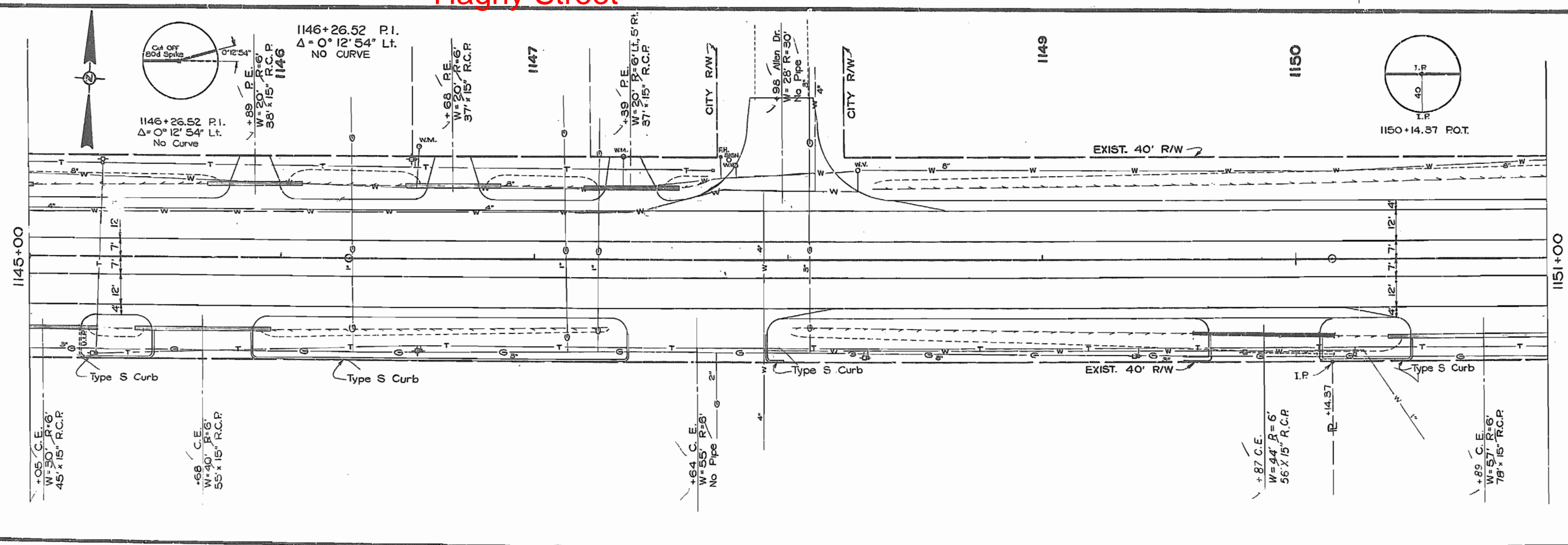


Heagon Street



Francis Street

Hagny Street

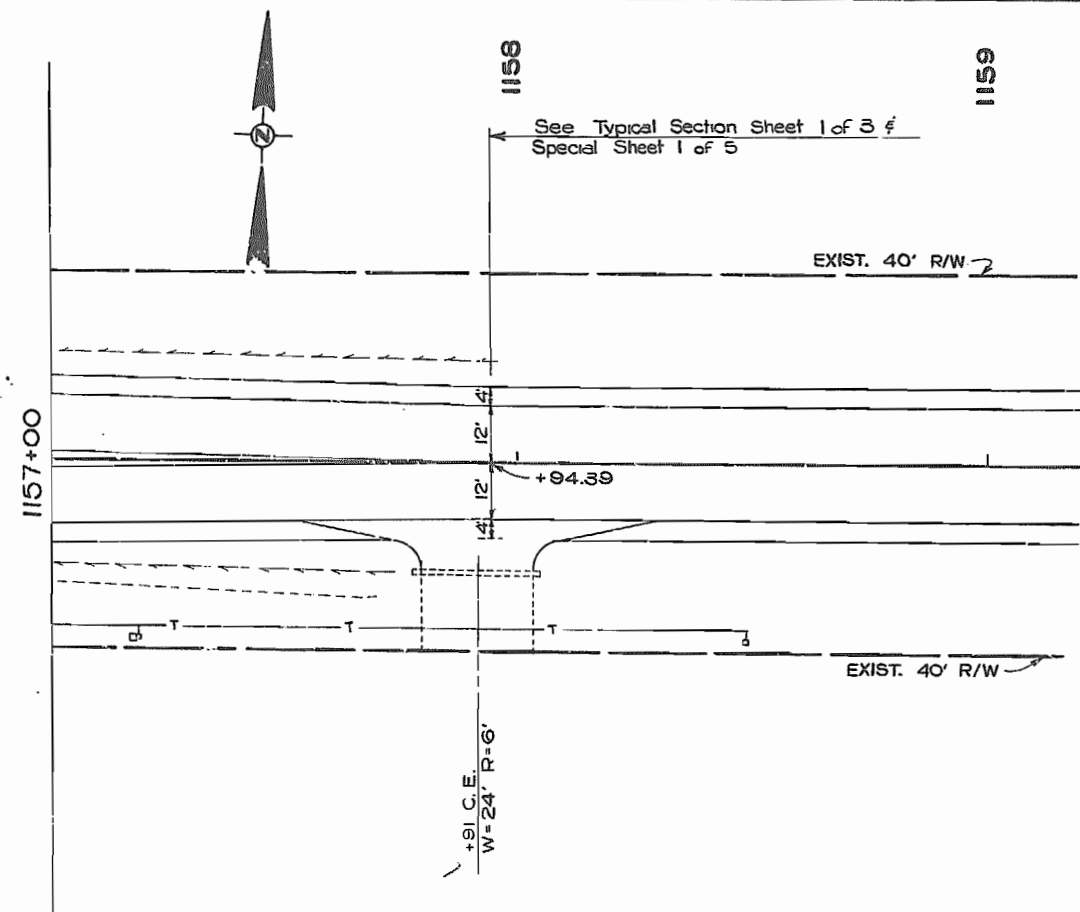
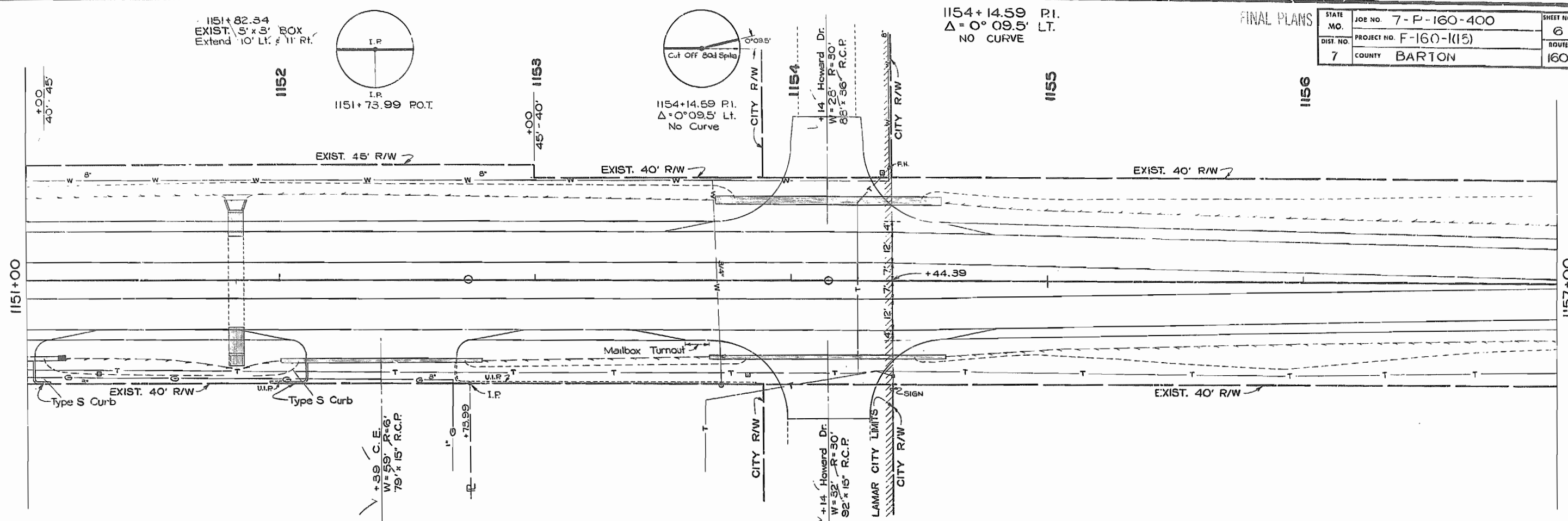


FINAL SURVEY	SURVEYED	DATE
	NOTED	BY
	NO	NO
	NO	NO

ORIGINAL SURVEY	SURVEYED	DATE
	NOTED	BY
	NO	NO
	NO	NO

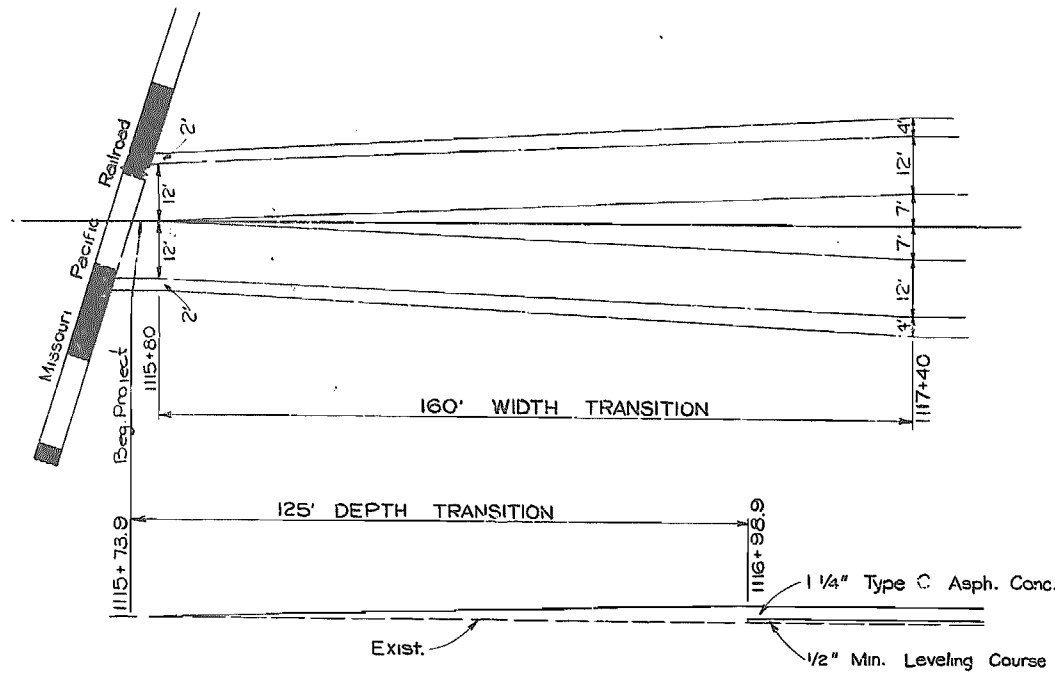
FINAL PLANS

STATE MO.	JOB NO. 7-P-160-400	SHEET NO. 6
DIST. NO. 7	PROJECT NO. F-160-1(15)	ROUTE 160
	COUNTY BARTON	

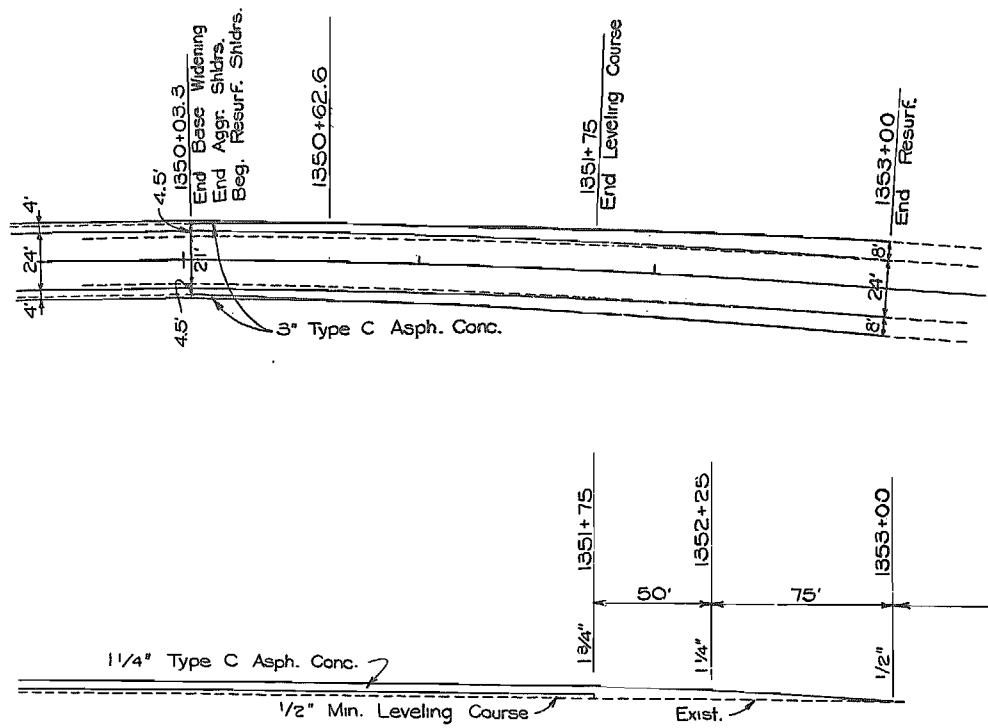


FINAL SURVEY	NO. 1	DATE
SURVYD		
PLOTTED		
TEMP. AREAS		
CHECKED		

ORIGINAL SURVEY	NO. 2	DATE
SURVYD		
PLOTTED		
TEMP. AREAS		
CHECKED		

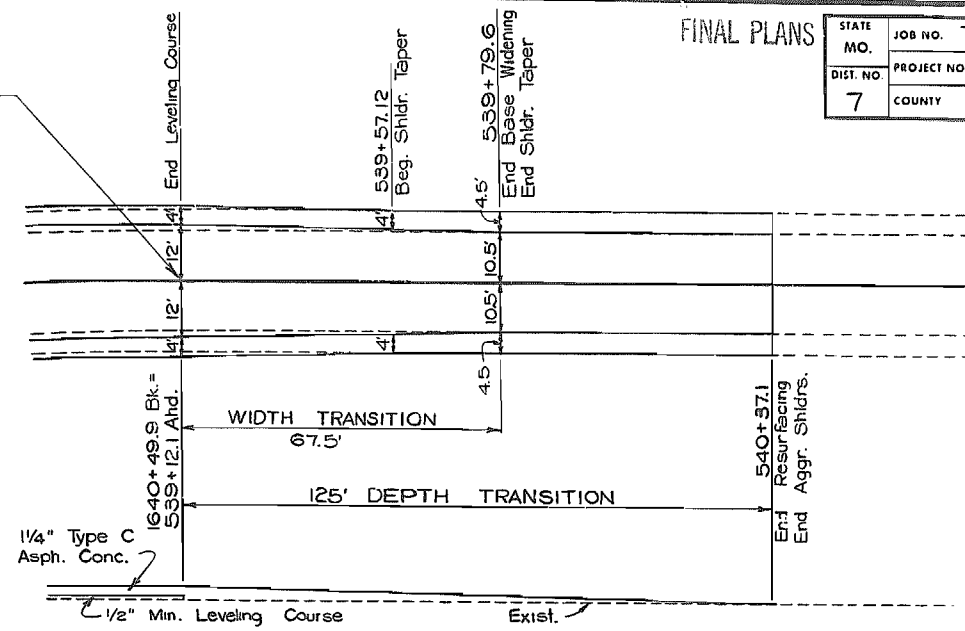


WIDTH & DEPTH TRANSITION @ BEGINNING OF JOB

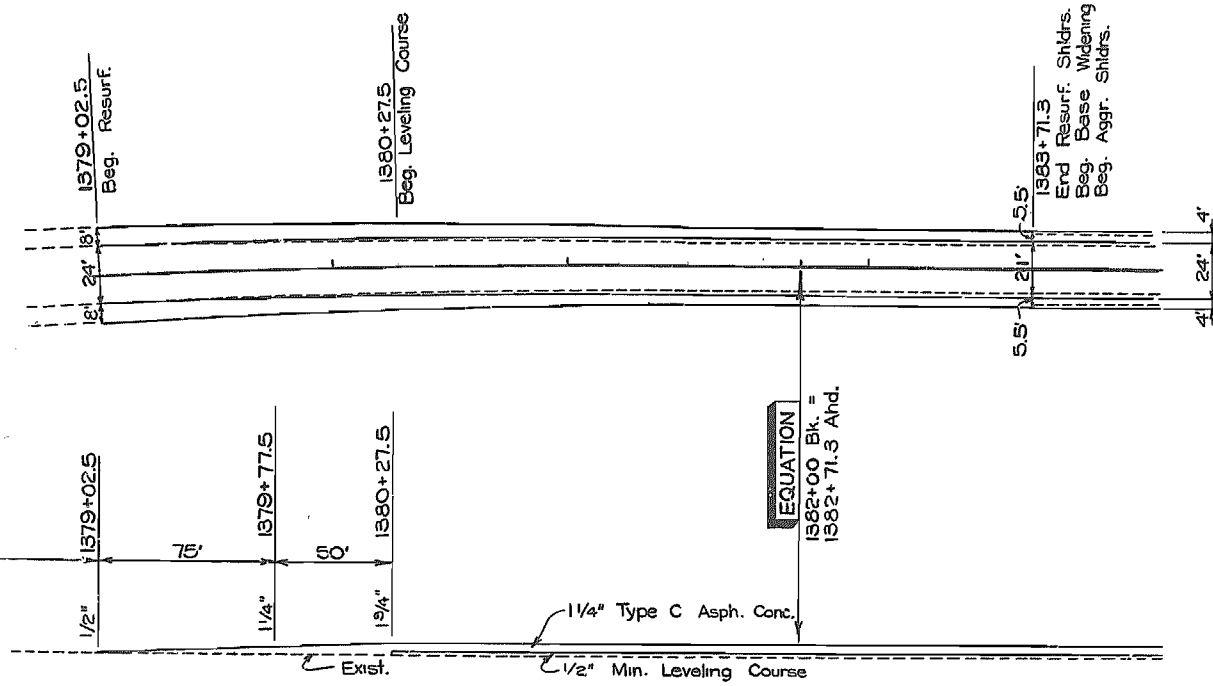


WIDTH & DEPTH TRANSITIONS @ BRIDGE EXCEPTION

Sta. 539+12.1
End Job No. 7-P-160-400

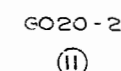


WIDTH & DEPTH TRANSITION @ END OF JOB

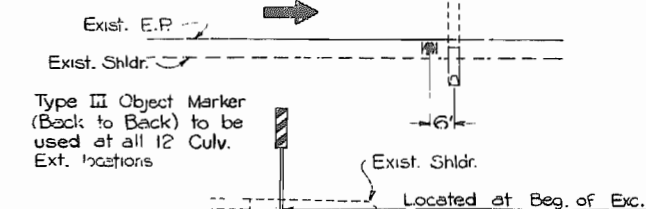
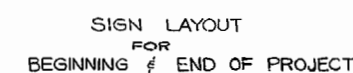


FINAL PLANS

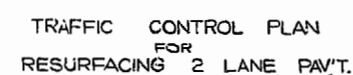
STATE MO.	JOB NO. 7-P-160-400	SHEET NO. 7
DIST. NO. 7	PROJECT NO. F-160-K(15)	ROUTE 160
COUNTY BARTON		



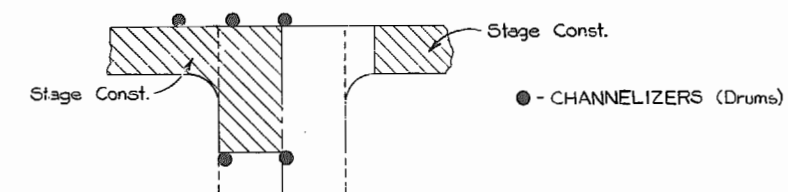
(Use Signing Layout Shown for
Resurfacing 2 Lane Pav't.)



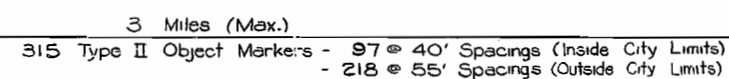
CULVERT EXTENSION



* Do not use when inside City Limits.



TYPICAL TRAFFIC CONTROL LAYOUT
AT
SIDE ROADS (10)

TRAFFIC CONTROL PLAN
FOR
WIDENING

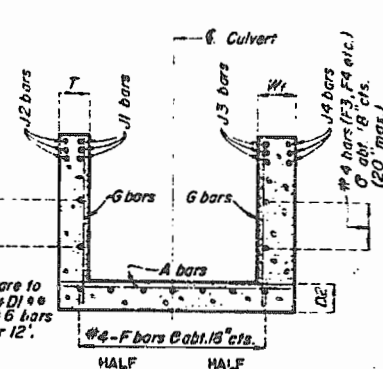
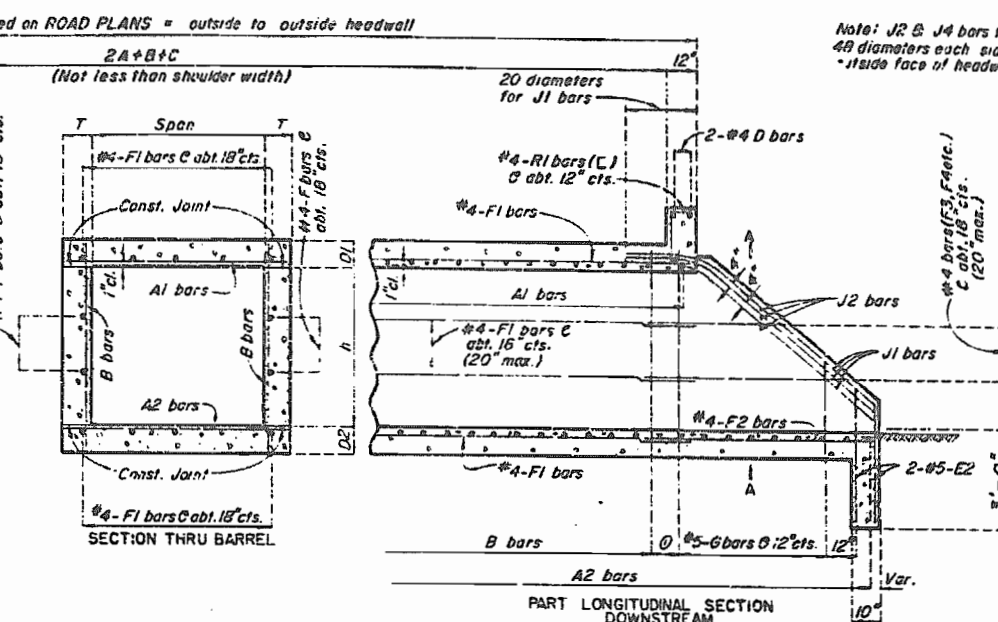
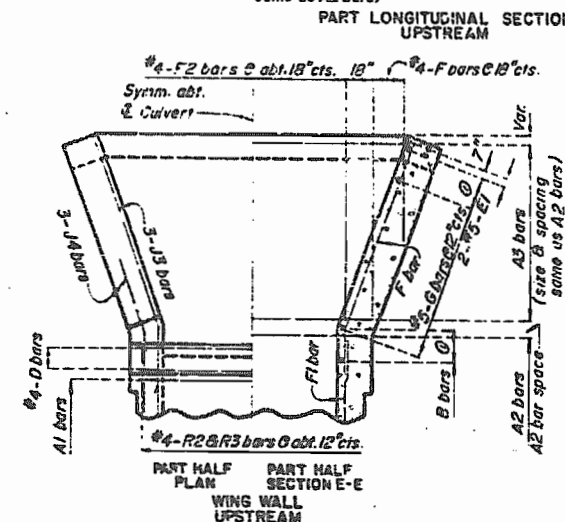
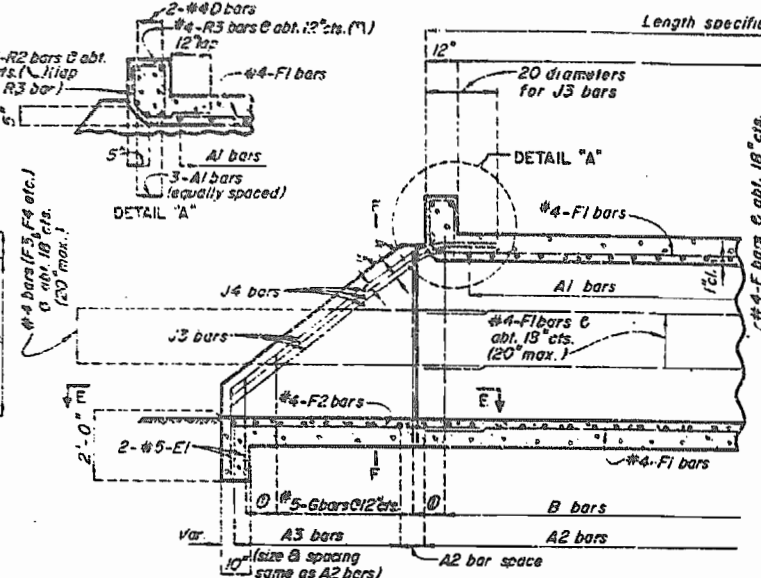
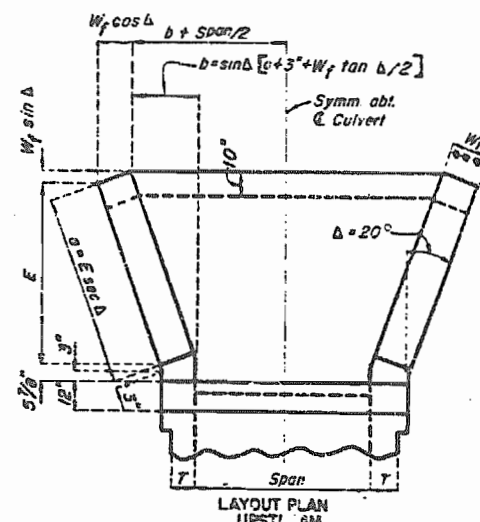
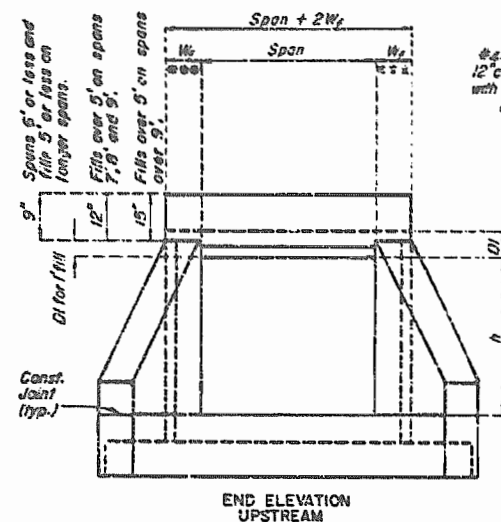
TRAFFIC CONTROL PLAN
Special Sheet 2 of 5

FINAL SURVEY	SURVEYED _____	BY	DATE
	PLOTTED _____		
	TEMPLATE _____		
	AREAS _____		
	AREAS CHECKED _____		
NOTE BOOK			

ORIGINAL SURVEY	SURVIVED	BY	DATE
PHOTO BOOK	PLACED		
	TENNIS		
	AREAS		
	AREAS		

FINAL PLANS

STATE	JOB NO.	SHEET NO.
MO.	7-P-160-400	12
DIST. NO.	PROJECT NO.	ROUTE
7	F-160-11(15)	160
COUNTY	BARTON	

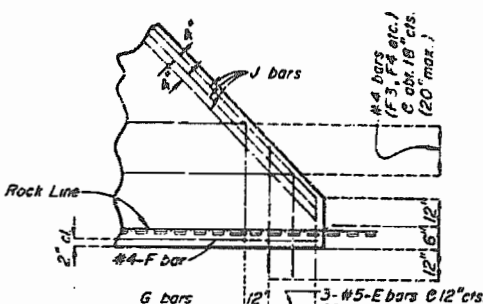


Note: J1 & J2 bars are to be #5 bars when h+D is 12' or less. Use #6 bars when h+D is over 12'.

h + D	2:1 SLOPE	3:1 SLOPE	4:1 SLOPE	5:1 SLOPE	6:1 SLOPE	7:1 SLOPE	8:1 SLOPE	9:1 SLOPE	10:1 SLOPE	11:1 SLOPE	12:1 SLOPE	13:1 SLOPE	14:1 SLOPE	15:1 SLOPE	16:1 SLOPE	17:1 SLOPE	18:1 SLOPE	19:1 SLOPE	20:1 SLOPE
h + D	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
J3 & J4 bars	3-#5	3-#5	3-#5	3-#5	3-#5	3-#5	3-#5	3-#5	3-#5	3-#5	3-#5	3-#5	3-#5	3-#5	3-#5	3-#5	3-#5	3-#5	3-#5
W ₁ & W ₂	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5

h + D for fill

Not less than T.

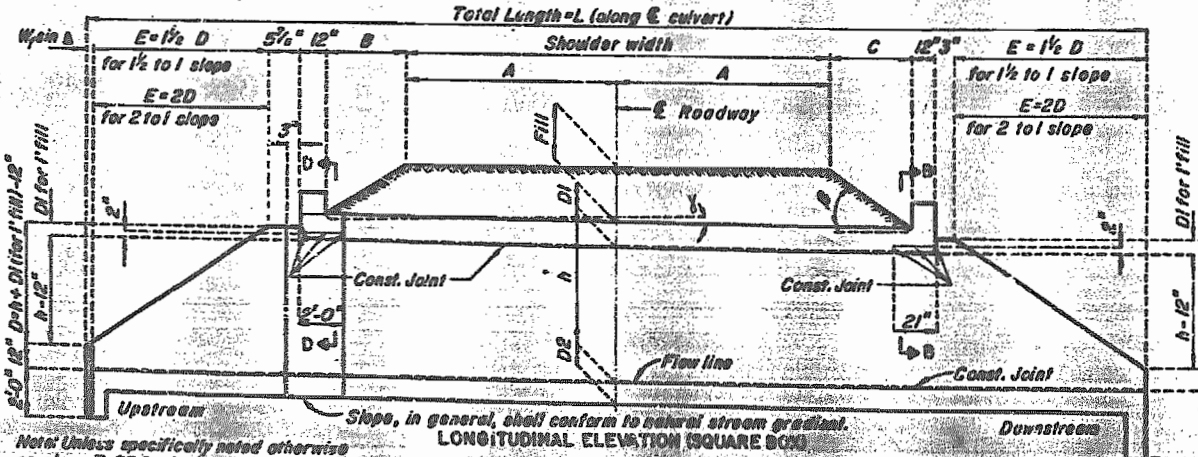
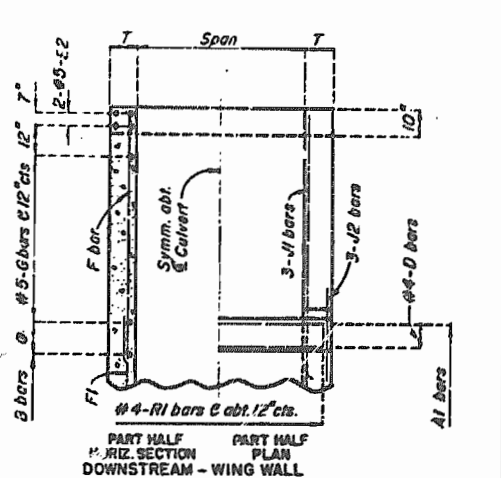
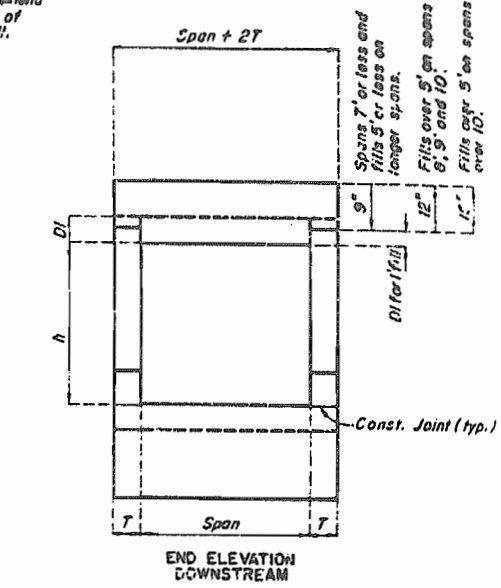


Notes: Holes to be drilled 12" into solid rock and E bars grouted in.

Omit bottom slab and carry full length of walls and wings 6" into and cast against vertical faces of solid undisturbed rock.

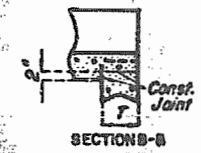
Details not shown are same as for box with bottom slab.

MODIFICATIONS REQUIRED FOR BOX ON ROCK



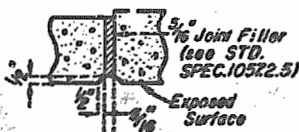
Note: Unless specifically noted otherwise on plans E=2D for boxes where (h) is 6'-0" or less. Where (h) exceeds 6'-0", E=1 1/2 D.

(For longitudinal elevation and plan of skewed box see other drawings.)



GENERAL NOTES:

- Reinforcing steel stress = 20,000 lbs. per sq. in.
- Concrete stress = 1,200 lbs. per sq. in.
- Earth = 120 lbs.
- Equivalent fluid pressure = 30 lbs.
- All concrete shall be Class "B".
- Minimum clearance to reinforcing steel shall be 1 1/2" unless otherwise shown.
- Lap all longitudinal bars 12" at splices.
- Ø varies, not more than 12".
- Use Standard 703.21 for culverts with more than 20' fill.



Note: Use transverse joint when barrel is over 75' long between headwalls and not on rock.

DETAIL OF TRANSVERSE JOINT THRU BARREL OF CULVERT

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

CONCRETE BOX CULVERTS

5' TO 14' SPANS

AND

4' X 6' BOXES

(HIS LOADING)

SPECIAL SHEET

FINAL PLANS

STATE	MO.	JOB NO.	7-P-160-400	SHEET NO.	13
DIST. NO.	7	PROJECT NO.	F-160-1(15)	ROUTE	160
COUNTY	BARTON				

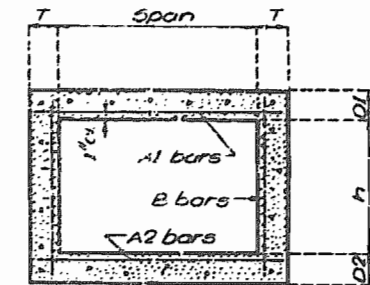
TOP SLABS																																													
#	4' SPAN				5' SPAN				6' SPAN				7' SPAN				8' SPAN				9' SPAN				10' SPAN				11' SPAN				12' SPAN				13' SPAN				14' SPAN				#
FILL (FT.)	A1 BARS	A2 BARS	C TO D1	D2	A1 BARS	A2 BARS	C TO D1	D2	A1 BARS	A2 BARS	C TO D1	D2	A1 BARS	A2 BARS	C TO D1	D2	A1 BARS	A2 BARS	C TO D1	D2	A1 BARS	A2 BARS	C TO D1	D2	A1 BARS	A2 BARS	C TO D1	D2	A1 BARS	A2 BARS	C TO D1	D2	A1 BARS	A2 BARS	C TO D1	D2	FILL (FT.)								
1	#6	5 ¹ / ₂ "	6 ¹ / ₂ "	#5	5"	#6	6 ¹ / ₂ "	7 ¹ / ₂ "	#6	6"	8"	#5	5 ¹ / ₂ "	8 ¹ / ₂ "	#6	5"	9"	#6	5"	9 ¹ / ₂ "	#7	6"	10"	#7	6"	10 ¹ / ₂ "	#7	5 ¹ / ₂ "	11"	#7	5 ¹ / ₂ "	11 ¹ / ₂ "	#7	5 ¹ / ₂ "	11 ¹ / ₂ "	2									
2	"	6 ¹ / ₂ "	6"	"	"	6 ¹ / ₂ "	7"	"	"	"	"	"	"	"	"	"	9 ¹ / ₂ "	#7	6 ¹ / ₂ "	10"	"	"	10 ¹ / ₂ "	"	5 ¹ / ₂ "	11"	"	5"	11 ¹ / ₂ "	"	5"	11 ¹ / ₂ "	"	5"	12"	2									
3	#4	"	"	"	7"	6"	#5	6 ¹ / ₂ "	#5	5 ¹ / ₂ "	7 ¹ / ₂ "	"	3"	8"	"	5 ¹ / ₂ "	8 ¹ / ₂ "	#6	5"	9 ¹ / ₂ "	"	"	10"	"	"	10 ¹ / ₂ "	"	"	5 ¹ / ₂ "	"	"	5 ¹ / ₂ "	"	"	12"	3									
4	"	"	"	"	"	"	6"	"	#6	7"	7"	"	"	"	"	"	9"	"	"	"	"	"	"	10 ¹ / ₂ "	"	5 ¹ / ₂ "	"	"	5"	12"	"	"	12 ¹ / ₂ "	"	"	4									
5	"	6"	"	"	6 ¹ / ₂ "	"	"	5"	"	"	7 ¹ / ₂ "	"	"	"	"	5"	"	#7	6 ¹ / ₂ "	10"	"	"	11"	"	5"	11 ¹ / ₂ "	"	"	12 ¹ / ₂ "	#8	6"	13"	"	5 ¹ / ₂ "	14"	5									
6	"	5 ¹ / ₂ "	"	"	5 ¹ / ₂ "	"	"	"	"	6 ¹ / ₂ "	8"	"	5 ¹ / ₂ "	8 ¹ / ₂ "	"	"	9 ¹ / ₂ "	"	6"	10 ¹ / ₂ "	"	5 ¹ / ₂ "	"	"	"	12"	#8	6"	13"	"	5 ¹ / ₂ "	14"	"	"	6										
7	"	5"	"	"	6"	6 ¹ / ₂ "	#6	6 ¹ / ₂ "	"	"	6"	"	"	9"	#7	6 ¹ / ₂ "	10"	"	"	11"	"	5"	11 ¹ / ₂ "	#8	6 ¹ / ₂ "	12 ¹ / ₂ "	"	"	13 ¹ / ₂ "	"	"	14 ¹ / ₂ "	"	"	7										
8	#5	7"	"	"	5 ¹ / ₂ "	"	"	7 ¹ / ₂ "	"	"	5 ¹ / ₂ "	"	5"	9 ¹ / ₂ "	"	6"	10 ¹ / ₂ "	"	5 ¹ / ₂ "	11 ¹ / ₂ "	"	"	12"	"	6"	13"	"	5 ¹ / ₂ "	14"	"	5"	15"	"	"	8										
9	#4	5 ¹ / ₂ "	"	"	6"	"	"	7"	"	"	5 ¹ / ₂ "	8"	"	"	9"	"	"	11"	"	"	12"	#8	6"	12 ¹ / ₂ "	"	5 ¹ / ₂ "	13 ¹ / ₂ "	"	5"	14 ¹ / ₂ "	"	"	15 ¹ / ₂ "	"	"	9									
10	"	5"	"	"	5 ¹ / ₂ "	"	"	7 ¹ / ₂ "	"	"	8 ¹ / ₂ "	"	"	9 ¹ / ₂ "	"	"	10 ¹ / ₂ "	"	5"	"	"	"	"	13"	"	"	14"	"	"	15"	#9	6"	17 ¹ / ₂ "	"	"	10									
11	#5	6 ¹ / ₂ "	"	"	"	7"	"	"	8"	"	4	9"	#7	6 ¹ / ₂ "	10"	"	"	11"	"	"	"	"	5 ¹ / ₂ "	13 ¹ / ₂ "	"	5"	14 ¹ / ₂ "	"	"	16"	"	5 ¹ / ₂ "	17 ¹ / ₂ "	"	"	11									
12	"	6"	"	"	5"	"	"	6"	"	"	5"	"	"	6"	10 ¹ / ₂ "	"	"	11 ¹ / ₂ "	#8	6"	12 ¹ / ₂ "	"	"	"	"	15"	#9	6"	16 ¹ / ₂ "	"	"	"	17 ¹ / ₂ "	"	"	12									
13	"	5 ¹ / ₂ "	"	"	"	7 ¹ / ₂ "	"	4	8 ¹ / ₂ "	"	4	9 ¹ / ₂ "	"	"	11"	"	5"	12"	"	"	13"	"	"	14"	"	"	15 ¹ / ₂ "	"	5 ¹ / ₂ "	17"	"	"	18"	"	"	13									
14	"	6"	6 ¹ / ₂ "	#6	6 ¹ / ₂ "	"	"	5 ¹ / ₂ "	"	#7	6 ¹ / ₂ "	10"	"	5 ¹ / ₂ "	"	"	12 ¹ / ₂ "	"	"	13 ¹ / ₂ "	"	5"	14 ¹ / ₂ "	"	"	16"	"	"	"	"	5"	18 ¹ / ₂ "	"	"	14										
15	"	5 ¹ / ₂ "	"	"	6"	"	"	7"	"	"	10 ¹ / ₂ "	"	"	11 ¹ / ₂ "	#8	6"	"	"	5 ¹ / ₂ "	14"	"	"	15"	#9	6"	16 ¹ / ₂ "	"	"	17 ¹ / ₂ "	"	"	19"	"	"	15										
16	"	5"	"	"	6 ¹ / ₂ "	8"	"	5"	"	"	6"	"	"	5"	12"	"	"	13"	"	"	14 ¹ / ₂ "	"	"	15 ¹ / ₂ "	"	"	17"	"	5"	18"	"	"	19 ¹ / ₂ "	"	"	16									
17	"	5 ¹ / ₂ "	7"	"	6"	"	"	"	9 ¹ / ₂ "	"	"	11"	"	"	"	"	"	13 ¹ / ₂ "	"	5"	"	#9	6"	16"	"	5 ¹ / ₂ "	17 ¹ / ₂ "	"	"	18 ¹ / ₂ "	#10	6"	20"	"	"	17									
18	"	5"	"	"	"	8 ¹ / ₂ "	#7	6 ¹ / ₂ "	"	"	5 ¹ / ₂ "	"	"	12 ¹ / ₂ "	"	5 ¹ / ₂ "	"	"	15"	"	"	16 ¹ / ₂ "	"	"	18"	"	"	"	"	"	19 ¹ / ₂ "	"	"	20 ¹ / ₂ "	"	"	18								
19	#6	7"	"	"	5 ¹ / ₂ "	"	"	"	10"	"	"	11 ¹ / ₂ "	"	"	13"	"	"	14"	"	"	15 ¹ / ₂ "	"	"	17"	"	"	18 ¹ / ₂ "	"	"	"	"	19 ¹ / ₂ "	"	5 ¹ / ₂ "	21"	"	"	19							
20	#5	5"	7 ¹ / ₂ "	"	"	"	"	6"	"	"	5"	"	#8	6"	"	"	"	14 ¹ / ₂ "	#9	6"	16"	"	5 ¹ / ₂ "	17 ¹ / ₂ "	"	5"	"	#10	6"	20"	"	"	21 ¹ / ₂ "	"	"	20									

Notes:

Where barrel is cut in sections, the bottom slab reinforcement shall be identical to that required in the top slab. The bottom slab thickness shall be the required top slab thickness D1 plus 1 1/2".

* Fill as indicated in the tables shall be taken as the average between that of 2' of culvert and of high shoulder line.

For fill heights between values tabulated, the design fill height is taken to the next increment requiring the higher design.



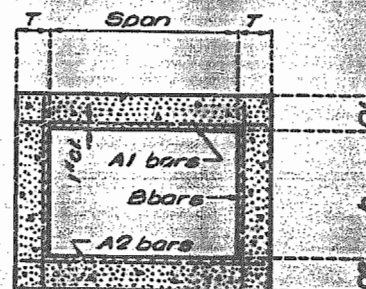
Note: Minimum clearance to reinforcing steel shall be 1 1/2" unless otherwise shown.

BOTTOM SLABS (FOR CULVERTS NOT BUILT IN SECTIONS)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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	h=8'		h=3'4" & 5'		h=6' & 7'		h=3'4" & 5'		h=7' & 8'		h=4'5" & 6'		h=7'8" & 9'		h=4'5" & 6'		h=7' & 8'		h=9' & 10'		h=5' & 6'		h=7' & 8'		h=9'10" & 11'		h=5' & 6'		h=7'8" & 10'		h=11' & 12'																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
FILL (FT.)	A2 BARS	C TO D2	D2	A2 BARS	C TO D2	D2	A2 BARS	C TO D2	D2	A2 BARS	C TO D2	D2	A2 BARS	C TO D2	D2	A2 BARS	C TO D2	D2	A2 BARS	C TO D2	D2	A2 BARS	C TO D2	D2	A2 BARS	C TO D2	D2	A2 BARS	C TO D2	D2	A2 BARS	C TO D2	D2	A2 BARS	C TO D2	D2	FILL (FT.)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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2	"	"	"	"	"	"	"	7"	"	"	5 1/2"	"	"	5"	"	#5	7 1/2"	8"	#5	7"	"	"	6"	"	"	5 1/2"	"	"	5 1/2"	8 1/2"	"	5"	8 1/2"	"	5"	8"	#6	6 1/2"	9"	"	6"	8 1/2"	"	6"	8 1/2"	2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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7	"	6 1/2"	"	"	"	"	"	8"	#5	7 1/2"	"	"	"	5 1/2"	"	"	5"	"	"	5"	"	"	9"	"	"	9"	"	"	9 1/2"	"	6"	"	"	"	10"	"	5 1/2"	"	"	10 1/2"	"	"	10 1/2"	"	5"	11"	"	"	11 1/2"	7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
8	"	6"	"	"	#5	7"	"	"	7"	"	"	"	"	8 1/2"	"	"	5 1/2"	8 1/2"	#6	6 1/2"	"	"	9 1/2"	"	"	10"	"	5 1/2"	"	"	"	"	10 1/2"	"	"	10 1/2"	"	5"	11"	"	"	11"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"	12"	"	6"	"	"	11 1/2"	#7	6 1/2"

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

CONCRETE BOX CULVERTS
5' TO 14' SPANS
AND
4' X 6' BOXES
(H15 LOADING)

SPECIAL SHEET

[illegible]

Note: Minimum clearance to reinforcing steel shall be $1\frac{1}{2}"$ unless otherwise shown.

MISSOURI HIGHWAY AND TRANSPORTATION
COMMISSION

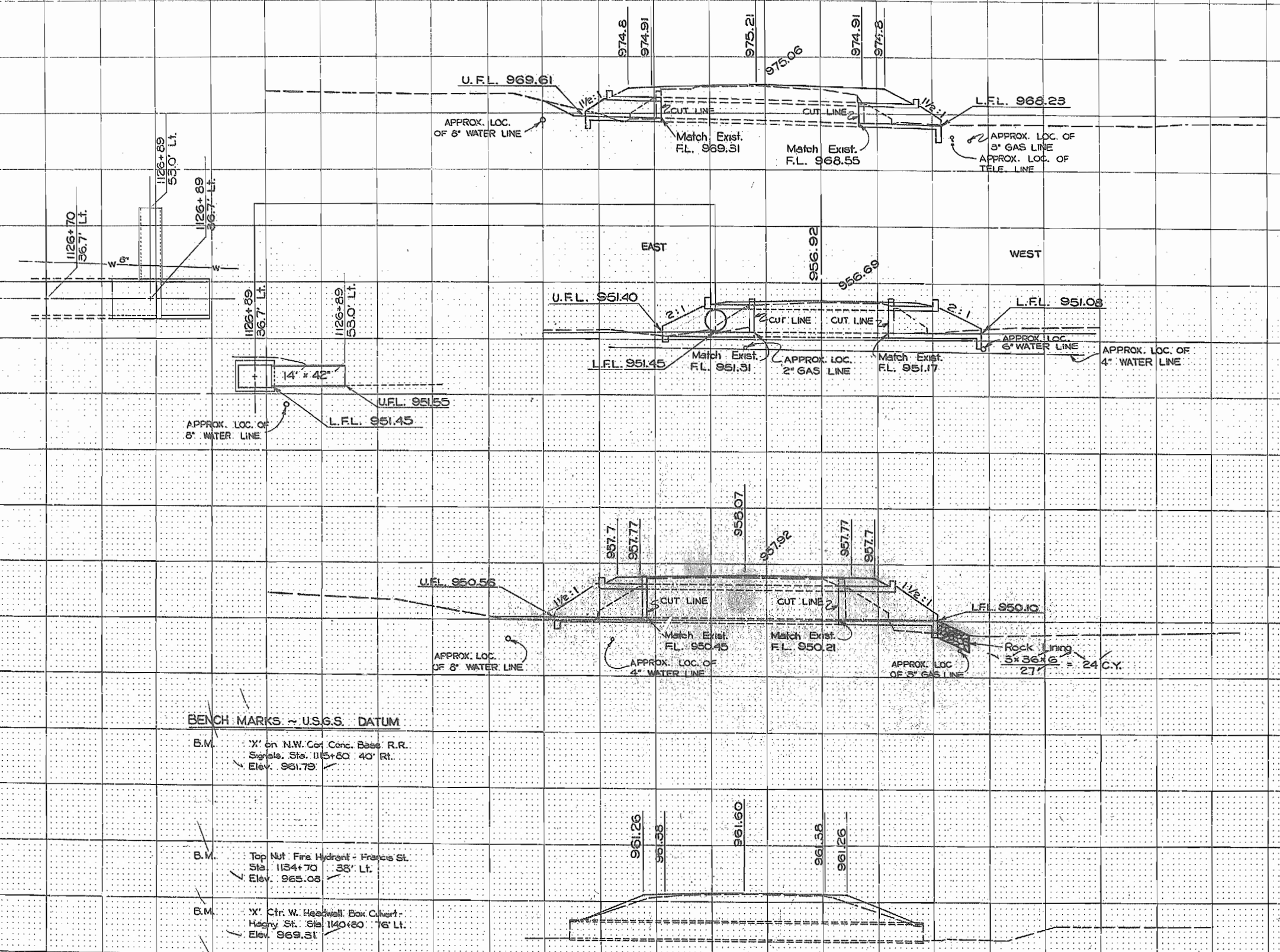
CONCRETE BOX CULVERTS

5' TO 14' SPANS
AND
4' X 6' BOXES
(H15 LOADING)

SPECIAL SHEET

SHEET 3 of 3

FINAL PLANS



1151+32.5
EXIST. 5' x 3' x 35.3' CONC. BOX CULVERT
REMOVE HEADWALLS & EXTEND LT. 10'
& EXTEND RT. 11'
STD. 703.21
CL. 3 EXC. ~24 C.Y.

1126+70 (36.7' Lt.)
EXIST. 6' x 4' x 24' CONC. BOX CULVERT
REMOVE HEADWALLS & EXTEND LT. 9'
& EXTEND RT. 9'
STD. 703.21
INCLUDE 14' x 42" CL III R.C.P.
CL. 3 EXC. ~40 C.Y.

1125+00
EXIST. 12' x 5' x 34.2' CONC. BOX CULVERT
REMOVE HEADWALLS & EXTEND LT. 9'
& EXTEND RT. 10'
STD. 703.21
CL. 3 EXC. ~45 C.Y.

1116+34
EXIST. 36' x 63.5' C.M.P.
U.I.P.

BENCH MARKS ~ U.S.G.S. DATUM

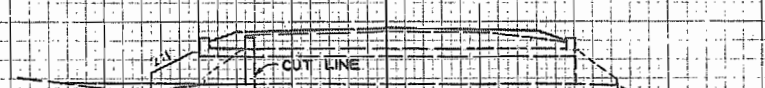
- B.M. 'X' on N.W. Cor. Conc. Base R.R.
Signal. Sta. 1115+50 40' Rt.
Elev. 961.79
- B.M. Top Nut. Fire Hydrant - Francis St.
Sta. 11134+70 38' Lt.
Elev. 965.08
- B.M. 'X' Ctr. W. Headwall Box Culvert -
Hagerty St. Sta. 1140+80 76' Lt.
Elev. 969.31
- B.M. Top Nut. Fire Hydrant - Allen Dr.
Sta. 1147+72 39.5' Lt.
Elev. 976.59
- B.M. 'X' Ctr. W. End Pump Island
Sta. 11153+54 66.35' Rt.
Elev. 979.34

476
82

FINAL PLANS



1593+45
 EXIST. 14' x 2.5' CONC. BOX CULVERT
 REMOVE HEADWALL LT. #
 EXTEND LT. 6'
 STD. 703.30
 CL. 3 EXC. ~ 9 C.Y.



1558+24
 EXIST. 8' x 8' CONC. BOX CULVERT
 REMOVE HEADWALL LT. #
 EXTEND LT. 6'
 STD. 703.21
 CL. 3 EXC. ~ 10 C.Y.

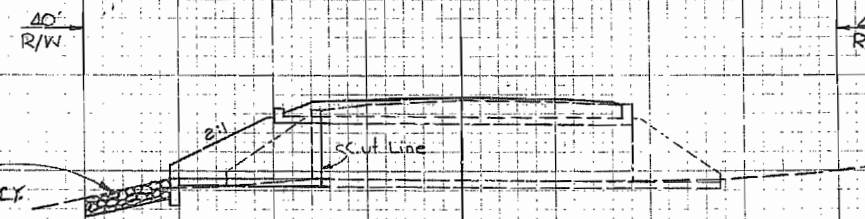


SPAN	H	D1 (IN)	A1	D2 (IN)	A2	T (IN)	B1
10'	4'	11	#7 @ 6"	9	#6 @ 6 1/2"	6 1/2"	#5 @ 8"

1528+50
 EXIST. 10' x 4' CONC. BOX CULVERT
 REMOVE HEADWALL LT. # EXTEND
 LT. 7'
 STD. 703.21
 CL. 3 EXC. ~ 23 C.Y.



1416+58
 EXIST. 8' x 2' CONC. BOX CULVERT
 REMOVE HEADWALLS # EXTEND LT.
 WITH 4' x 36" CL. III R.C.P. # EXTEND
 RT. WITH 6' x 36" CL. III R.C.P.
 2- TYPE 'C' PIPE COLLARS
 2- 36" FLARED END SECTIONS
 CL. 3 EXC. ~ 8 C.Y.



1300+50
 EXIST. 4' x 6' CONC. BOX CULVERT
 REMOVE HEADWALL LT. # EXTEND
 LT. 5'
 STD. 703.16
 CL. 3 EXC. ~ 17 C.Y.

CULVERT SECTIONS

Sheet 2 of 2

FINAL PLANS

STATE NO.	JOB NO. 7-P-160-400	SHEET NO. 17
DIST. NO. 7	PROJECT NO. F-160-1(15)	ROUTE 160
	COUNTY BARTON	

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION
STANDARD PLANS

✓	NO.	DESCRIPTION
	203.00E	EXCAVATION & EMBANKMENT
	203.02C	UNDERGRADING
	203.10A	TABULATED EARTHWORK & SECTION DATA
	203.20B	SUPERELEVATION SPIRALS & WIDENING (UNDIVIDED)
	203.21B	SUPERELEVATION SPIRALS & WIDENING (DIVIDED)
	203.30A	ENTRANCES & APPROACHES (LESS THAN 400 ADT)
	203.31B	ENTRANCES & APPROACHES (GREATER THAN 400 ADT - NO SAFETY ZONE)
	203.32D	ENTRANCES & APPROACHES (GREATER THAN 400 ADT - SAFETY ZONE)
	203.35A	MAILBOX TURNOUTS
	203.40E	TYPICAL DETAILS-RAMPS FOR INTERCHANGES (OTHER THAN 6:1 FORESLOPE)
	203.41E	TYPICAL DETAILS-RAMPS FOR INTERCHANGES (6:1 FORESLOPE)
	203.50J	TYPICAL CROSS-OVERS (DIVIDED HIGHWAYS)
	204.00D	EMBANKMENT CONTROL MEASURING DEVICES
	502.00M	CONCRETE PAVEMENT & BASE APPURTENANCES
	502.10E	DOWEL SUPPORTING UNITS
	503.00J	CONCRETE APPROACH SLABS TO BRIDGES (ALSO INCLUDE 502.00)
	602.00A	RIGHT-OF-WAY & DRAIN MARKERS
	604.05A	PIPE CULVERT HEADWALLS - TYPE S
	604.10B	HEADWALL-WITH ENERGY DISSIPATOR - 18"
	604.11B	HEADWALL-WITH ENERGY DISSIPATOR - 24"
	604.12B	HEADWALL-WITH ENERGY DISSIPATOR - 30"
	604.13B	HEADWALL-WITH ENERGY DISSIPATOR - 36"
	604.14B	HEADWALL-WITH ENERGY DISSIPATOR - 42"
	604.15B	HEADWALL-WITH ENERGY DISSIPATOR - 48"
	604.20B	DROP INLET - TYPE B
	604.21B	DROP INLET - TYPE C
	604.22B	DROP INLET - TYPE D
	604.23B	DROP INLET - TYPE E
	604.24B	DROP INLET - TYPE EE
	604.25C	DROP INLET - TYPE F
	604.26D	DROP INLET - TYPE G
	604.27C	DROP INLET - TYPE S (3 SHEETS)
	604.28E	DROP INLET - TYPE T (ALSO INCLUDE 614.30)
	604.29C	DROP INLET - TYPE X
	604.30F	CONCRETE MANHOLES (ALSO INCLUDE 614.30)
	604.40E	PIPE COLLARS
	605.10A	CLASS A UNDERDRAINS
	606.00T	GUARD RAIL (2 SHEETS)
	606.20G	BRIDGE ANCHOR SECTION (BRUSH CURB) (ALSO INCLUDE 606.00)
	606.21F	BRIDGE ANCHOR SECTION - CURB TYPE (ALSO INCLUDE 606.00)
	606.22D	BRIDGE ANCHOR SECTION (SAFETY BARRIER CURB) (ALSO INCLUDE 606.00)
	606.30E	TERMINAL SECTION (ALSO INCLUDE 606.00)
	606.40A	GUARD CABLE
	607.10R	CHAIN LINK FENCE
	607.11B	CHAIN LINK FENCE FOR RETAINING WALLS
	607.20F	WOVEN WIRE FENCE (ALSO INCLUDE 607.10)

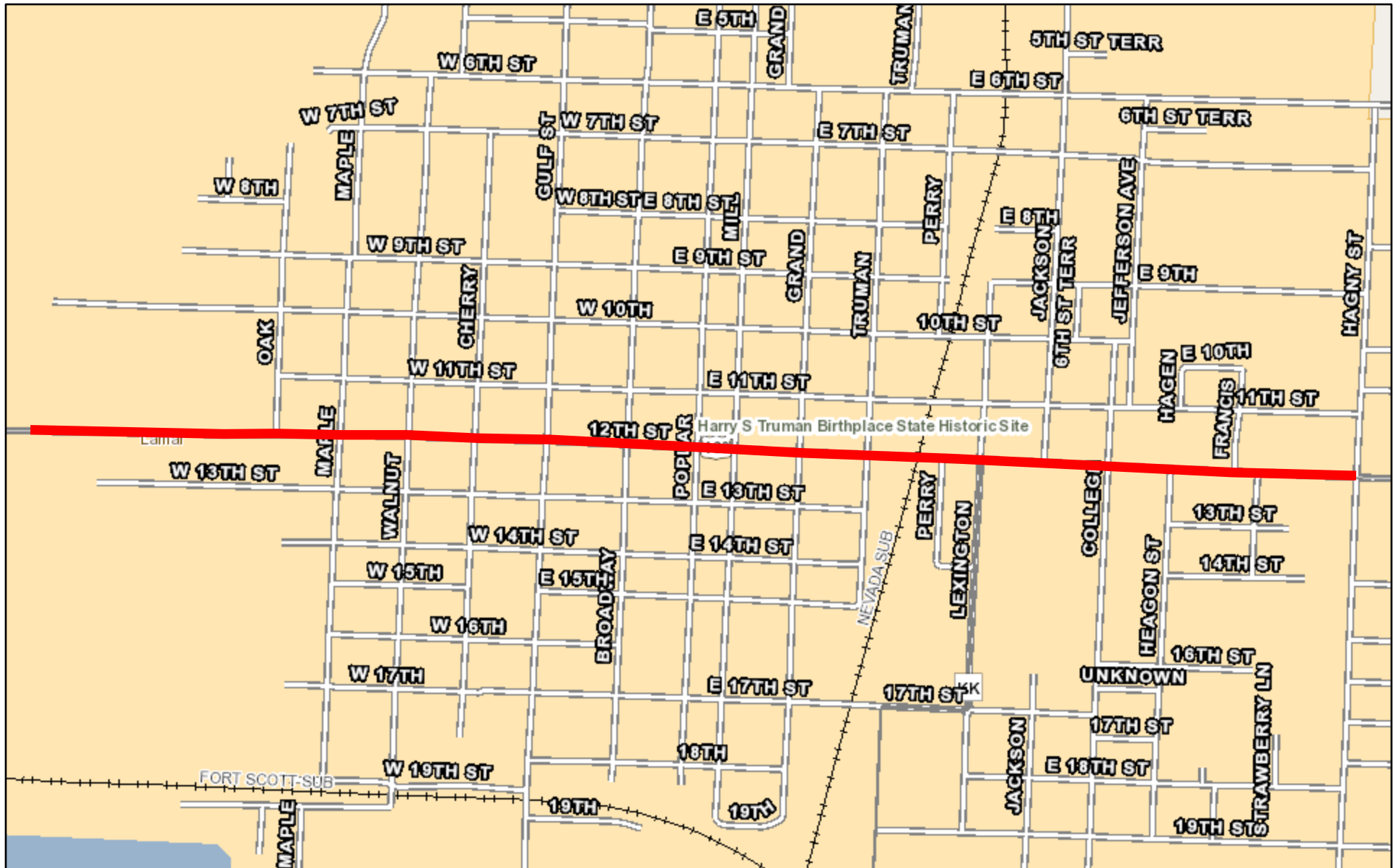
✓	NO.	DESCRIPTION
	608.00C	PAVED APPROACHES
	608.10G	CONCRETE SIDEWALK & WHEELCHAIR RAMPS
	608.20C	CONCRETE STEPS
	609.00G	CONCRETE CURB - CURB & GUTTER - GUTTER
	609.15A	PAVED DITCHES
	609.40D	DRAIN BASIN, SHOULDER PAVING & FILL SLOPE AT BRIDGE ENDS
	609.60A	DITCH LINER
	609.70C	ROCK LINING FOR CULVERT OUTLETS
	610.20E	BRICK MANHOLES (ALSO INCLUDE 614.30)
	611.60J	CONCRETE SLOPE PROTECTION
	612.10K	BARRICADES AND FLASHER SIGNS
	613.00A	PAVEMENT REPAIR
	614.10N	CURB INLETS, GRATES & BEARING PLATES
	614.30D	MANHOLE FRAMES & COVERS
	615.00A	OFFICE FOR ENGINEER
	616.10J	TRAFFIC CONTROL DEVICES (3 SHEETS) (ALSO INCLUDE 903.01)
	617.00V	CONCRETE TRAFFIC BARRIER (3 SHEETS)
	702.01E	16" CONCRETE PILES (APPROVED TYPES) (2 SHEETS)
	702.02B	CAST-IN-PLACE CONCRETE PILES (APPROVED TYPES)
	703.20D	CONCRETE BOX CULVERTS, H20 LOADING (3 SHEETS) (INCL. 706.35)
	703.21D	CONCRETE BOX CULVERTS, H20 LOADING (3 SHEETS) (FLARED WINGS) (INCL. 706.35)
	703.24E	CONCRETE BOX CULVERTS, SKEW DATA (703.20 & 703.30) (INCL. 706.35)
	703.25D	CONCRETE BOX CULVERTS, SKEW DATA (703.21) (3 SHEETS) (FLARED WINGS) (INCL. 706.35)
	703.30E	CONCRETE BOX CULVERTS, 4' SPANS & LESS - ALL LOADING (INCL. 706.35)
	703.35B	CONCRETE BOX CULVERTS, CUTTING DETAILS (STRAIGHT WINGS) (INCL. 706.35)
	703.36A	CONCRETE BOX CULVERTS, CUTTING DETAILS (FLARED WINGS) (INCL. 706.35)
	703.50G	CONCRETE DOUBLE BOX STRUCTURE - SQUARE (INCL. 706.35)
	703.51F	CONCRETE DOUBLE BOX STRUCTURE - SKEWED (INCL. 706.35)
	703.52C	CONCRETE DOUBLE BOX STRUCTURE - CUT SECTIONS (INCL. 706.35)
	703.54D	DOUBLE BOX STRUCTURE REINFORCEMENT - H20 OR HS20 LOADING (8 SHEETS)
	703.55D	CONCRETE DOUBLE BOX STRUCTURE (FLARED WINGS) SQUARE (INCL. 706.35)
	703.56D	CONCRETE DOUBLE BOX STRUCTURE (FLARED WING) SKEWED (INCL. 706.35)
	703.60C	CONCRETE BOX STRUCTURE - PIPE INLET
	703.70C	CONCRETE TRIPLE BOX STRUCTURE - SQUARE (2 SHEETS) (INCL. 706.35)
	703.71C	CONCRETE TRIPLE BOX STRUCTURE - SKEWED (2 SHEETS) (INCL. 706.35)
	703.72C	CONCRETE TRIPLE BOX STRUCTURE - (FLARED WINGS) (SQUARE) (2 SHEETS) (INCL. 706.35)
	703.73C	CONCRETE TRIPLE BOX STRUCTURE - (FLARED WINGS) (SKEWED) (2 SHEETS) (INCL. 706.35)
	703.74C	CONCRETE TRIPLE BOX STRUCTURE - CUT SECTIONS (INCL. 706.35)
	703.76B	CONCRETE TRIPLE BOX STRUCTURE REINFORCEMENT - H20 OR HS20 LOADING (6 SHEETS)
	706.30E	REINFORCING BAR SUPPORTS
	706.35E	BAR SUPPORTS FOR CONCRETE REINFORCEMENT
	712.40E	STEEL DAMS FOR BRIDGES (6" CHANNEL)
	725.31C	METAL CURTAIN WALL AND METAL INLETS
	726.30C	CULVERT INSTALLATION METHODS
	731.00R	PRECAST MANHOLES (ALSO INCL. 614.30)
	731.10H	PRECAST DROP INLETS (4 SHEETS) (ALSO INCLUDE 614.30 & 614.10)
	732.00L	FLARED END SECTION (2 SHEETS)
	806.02A	STAPLE PLACEMENT FOR PLASTIC NETTING

✓	NO.	DESCRIPTION
		HIGHWAY LIGHTING
	901.00N	POLES & APPURTENANCES - 30' (3 SHEETS)
	901.01T	POLES & APPURTENANCES - 45' (3 SHEETS)
	901.05A	CONTROL PANEL CABINET DETAILS (2 SHEETS) (NOTE BELOW)
	901.12C	POLE MOUNT. CONT. STA. - SECONDARY SERV. - 480 V MULTI. CIR. (NOT METERED)
	901.15E	POLE MOUNT. CONT. STA. - SEC. SERV. - 120, 240, & 480 V MULTI. CIR.
	901.16D	POLE MOUNT. CONT. STA. - SEC. SERV. - 480 V MULTI. CIR. (METERED)
	901.18D	POLE MOUNT. CONT. STA. - SEC. SERV. 120/240 V MULTI. CIR.
	901.19D	POLE MOUNT. CONT. STA. - SEC. SERV. - 240 V MULTI. CIR. (NOT METERED)
	901.20D	POLE MOUNT. CONT. STA. - SEC. SERV. - 120/240 V MULTI. CIR. (SIG. METERED)
	901.22E	POLE MOUNT. CONT. STA. - SEC. SERV. - 120/240 & 480 V MULTI. CIR. (BOTH METERED)
	901.23E	POLE MOUNT. CONT. STA. - SEC. SERV. - 240 V MULTI. CIR. (METERED)
	901.24D	POLE MOUNT. CONT. STA. - SEC. SERV. - 240 V MULTI. CIR. (LT'S & SIGS-BOTH METERED)
	901.25D	BASE MOUNT. CONT. STA. - SEC. SERV. - 120/240 V MULTI. CIR.
		NOTE: ALSO INCLUDE 901.05 WITH 901.12 THROUGH 901.25 EXCEPT 901.18
		TRAFFIC SIGNALS
	902.00E	SIGNAL HEADS, LENSES AND MOUNTING
	902.10J	PULL BOXES, CONTROLLERS, COND. LOCATION
	902.15D	POWER SUPPLY ASSEMBLY
	902.21B	TELEPHONE INTERCONNECT
	902.30G	CONCRETE BASES
	902.40G	TUBULAR STEEL POST
	902.50E	DETECTORS
	902.60E	SPAN WIRE DETAILS - STEEL POST
	902.70B	SPAN WIRE DETAILS - WOOD POLE
	902.80A	TRAFFIC SIGNAL SYMBOLS
		HIGHWAY SIGNING
	903.01C	ALPHABETS (2 SHEETS)
	903.02W	HIGHWAY SIGNING (7 SHEETS)
	903.03AJ	SIGN MOUNTING DETAILS (5 SHEETS)
	903.04D	WEIGH STATION SIGNING
	903.06C	TUBULAR SPAN SUPPORT - ONE TUBE, TYPE S
	903.08C	TUBULAR SPAN SUPPORT - TWO TUBE, TYPE S
	903.07C	TUBULAR CANTILEVER SUPPORTS, TYPE C
	903.08C	TUBULAR BUTTERFLY SUPPORTS, TYPE B
	903.09C	LIGHTING SUPPORT BRACKET
	903.10T	SIGN TRUSSES - OVERHEAD ALUMINUM (8 SHEETS) (INCL. 903.03)
	903.12N	SIGN TRUSSES - BUTTERFLY & CANTILEVER - STEEL (7 SHEETS) (INCL. 903.03)
	903.60S	SIGN TRUSSES - OVERHEAD STEEL (7 SHEETS) (INCL. 903.03)

NOTES: Plans for this project were developed using Drawings from this index.

* REVISED SINCE JANUARY 1988

J7S3531B - City of Lamar



February 5, 2023

— = PROJECT LIMITS (Route 160)

