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- 282-335. " " (6th Ave. Interchange)

COLORADO
DEPARTMENT OF HIGHWAYS
PLAN AND PROFILE OF PROPOSED
FEDERAL AID PROJECT NO. 1 002-2(38)
STATE HIGHWAY NO. 185
CITY AND COUNTY OF DENVER

25,0003209
I-25-21
209

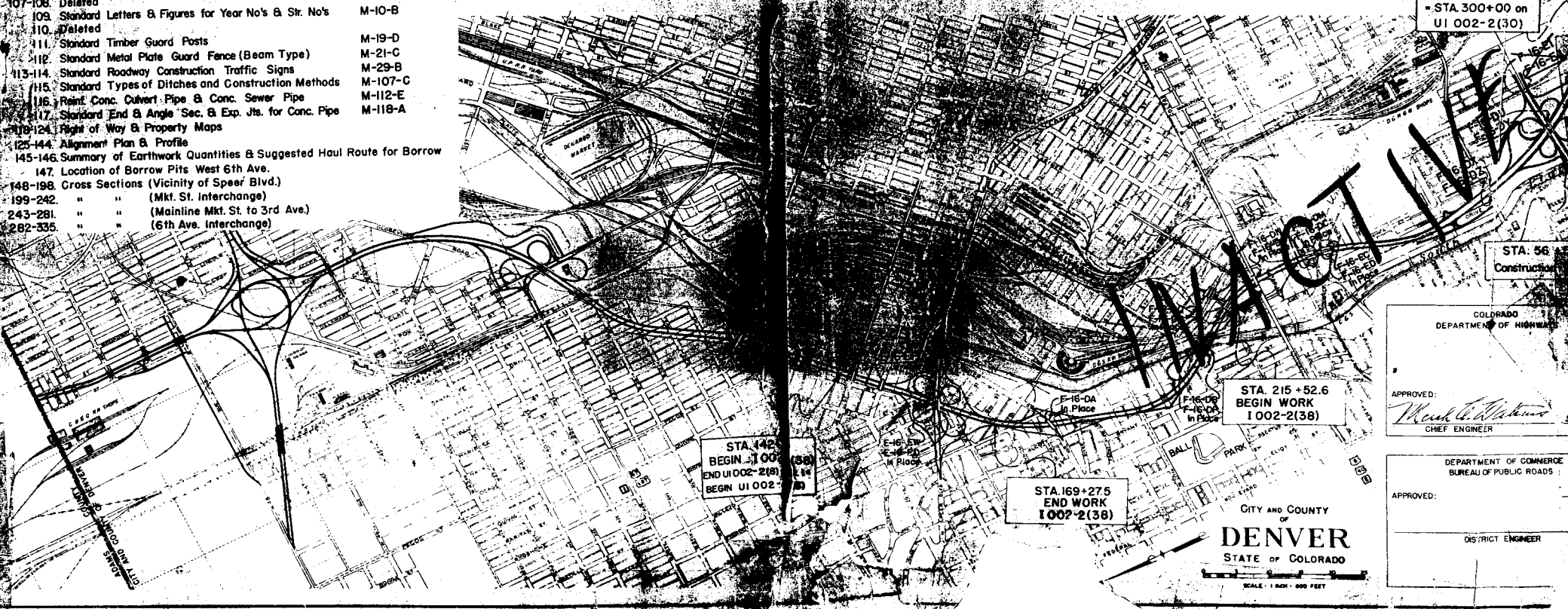
SCALES
 ON PLAN, 1" = 100 FT.
 ON PROFILE, 1" = 10 FT. HORIZONTAL
 1" = 10 FT. VERTICAL
 GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD
 GROSS LENGTH OF PROJECT 15,756.8 FT. = 2.984 MILES
 NET LENGTH OF PROJECT 10,652.6 FT. = 2.017 MILES



NOTE TO BIDDERS:
 It is recommended that bidders on this project go over this plan details with one of the following field representatives of the Department.

Earl Hurt, Construction Engineer
 H.D. Shepperd, Resident Engineer, Home Phone No. 4-2364

STA. 300+00
 END 1002-2(38)
 = STA. 300+00 on
 U1 002-2(30)



STA. 149
 BEGIN 1002-2(38)
 END U1002-2(31)
 BEGIN U1002-2(31)

STA. 169+27.5
 END WORK
 1002-2(38)

STA. 215 + 52.6
 BEGIN WORK
 1002-2(38)

STA. 56
 Construction

COLORADO
 DEPARTMENT OF HIGHWAYS

APPROVED: *Walter C. Williams*
 CHIEF ENGINEER

DEPARTMENT OF COMMERCE
 BUREAU OF PUBLIC ROADS

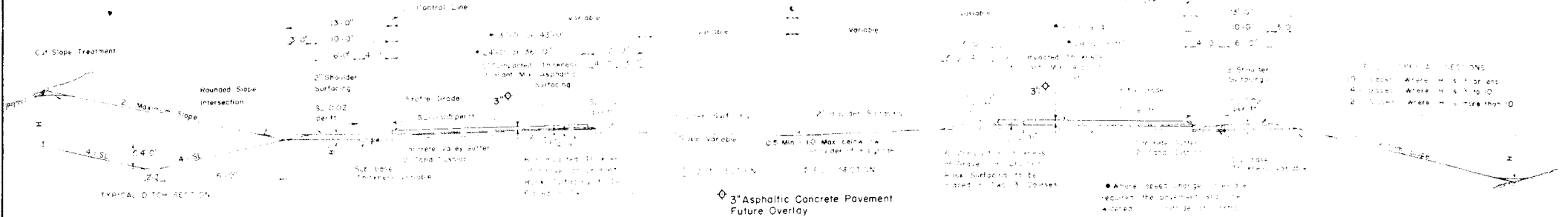
APPROVED: _____
 DISTRICT ENGINEER

CITY AND COUNTY
 OF
DENVER
 STATE OF COLORADO

SCALE: 1" = 100 FEET

TYPICAL SECTIONS

SECTION 1



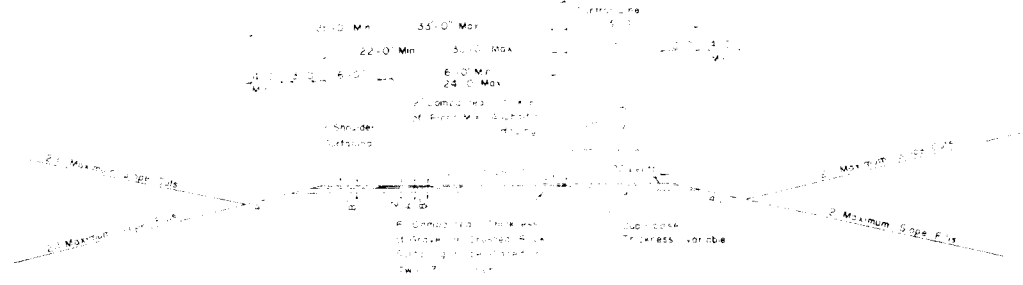
Rev. Sect. To Show Future Overlay, E.E.O. 1-10-61
 STATE
 Combined report
 44-000-2623 (Rev. 4-1-60)
 44-000-2670 (Rev. 7-1-60)
 1002-2536

SECTION 1
 10' Section Where H.S. 4 or less
 4' Section Where H.S. 5 to 10
 2' Section Where H.S. more than 10

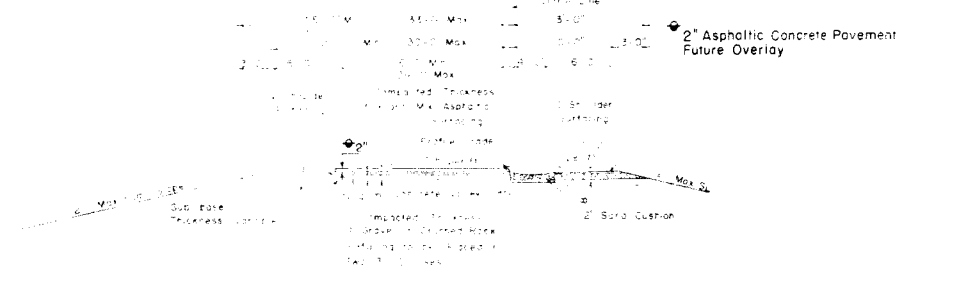
Where 3" depth of base is required, the pavement shall be placed in 3" layers. The concrete gutter and shoulder shall be placed in the same section as the 3" depth of base.

3" Asphaltic Concrete Pavement Future Overlay

SECTION 2



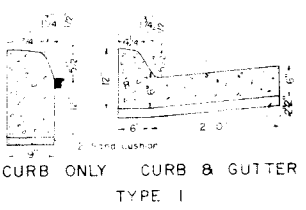
SECTION 3



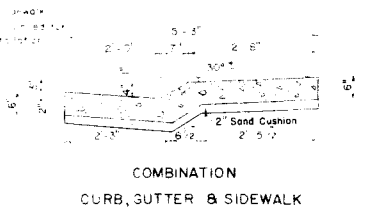
2" Asphaltic Concrete Pavement Future Overlay

Where 2" depth of base is required, the pavement shall be placed in 2" layers. The concrete gutter and shoulder shall be placed in the same section as the 2" depth of base.

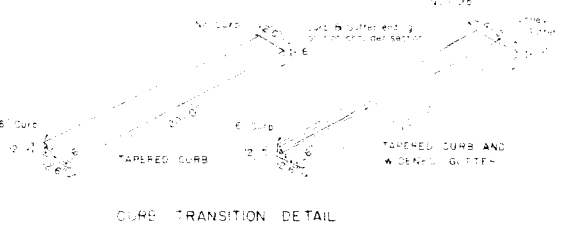
1. 1" Asphaltic Concrete
 2. 2" Sand Cushion
 3. 3" Asphaltic Concrete
 4. 4" Concrete
 5. 5" Concrete
 6. 6" Concrete



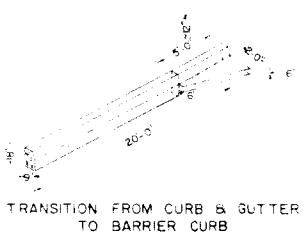
CURB ONLY CURB & GUTTER TYPE 1



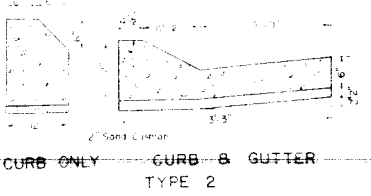
COMBINATION CURB, GUTTER & SIDEWALK



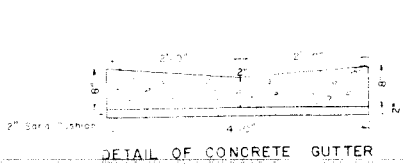
CURB TRANSITION DETAIL



TRANSITION FROM CURB & GUTTER TO BARRIER CURB



CURB ONLY CURB & GUTTER TYPE 2



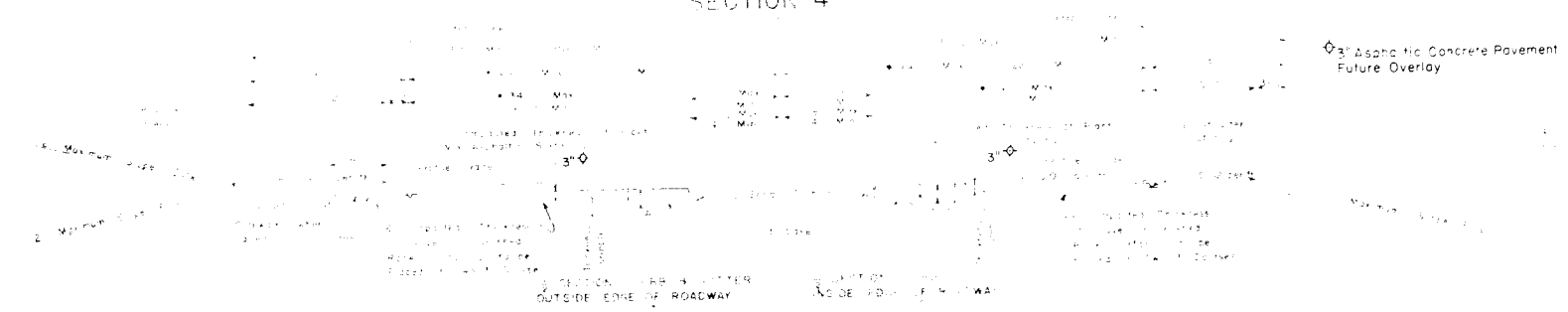
DETAIL OF CONCRETE GUTTER

When the 12 inch curb is used, the height of the curb shall be 12 inches. When the 20 inch barrier curb is used, the height of the curb shall be 20 inches. When the 6 inch curb is used, the height of the curb shall be 6 inches. When the 12 inch curb is used, the gutter shall have the same depth as the pavement. When the 20 inch barrier curb is used, the gutter shall have the same depth as the pavement.

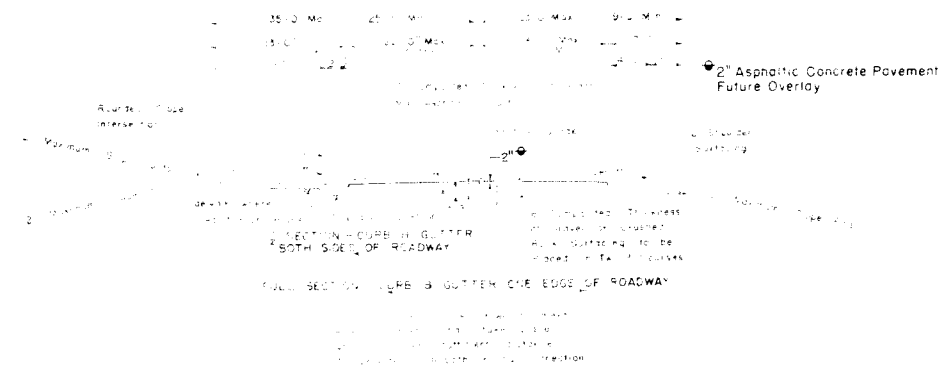
TYPICAL SECTIONS

SECTION 4

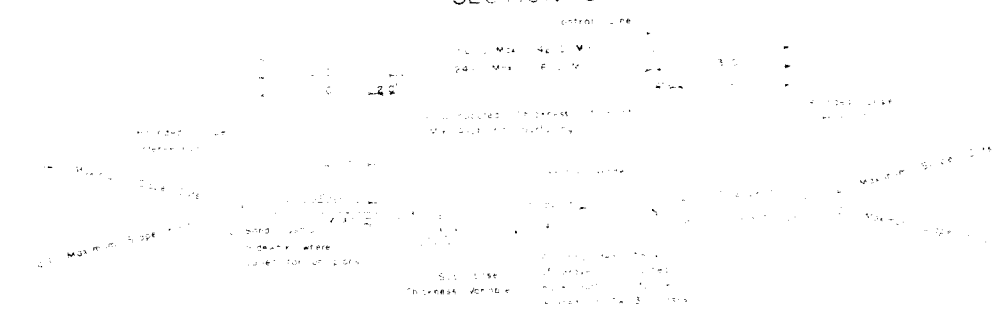
OUT SLOPES ALL SECTIONS
 1C - Slopes Where H = 3 or less
 4 - Slopes Where H = 3 to 10
 2 - Slopes Where H is more than 10



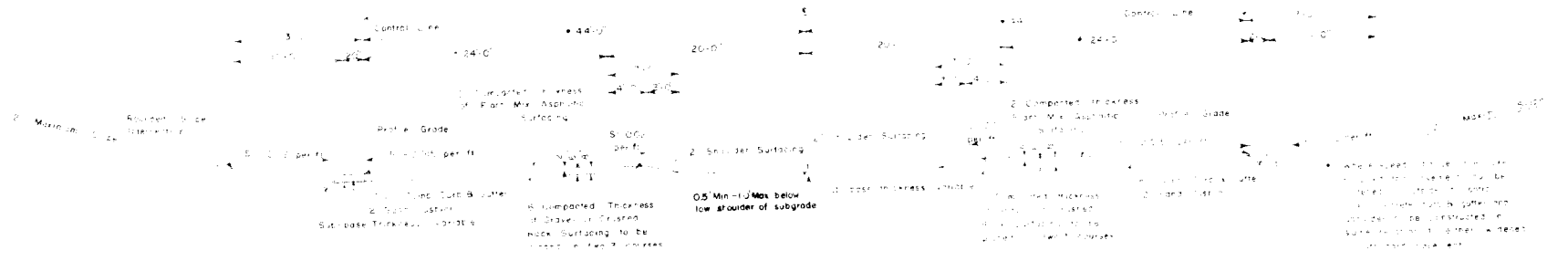
SECTION 5



SECTION 6



SECTION 7

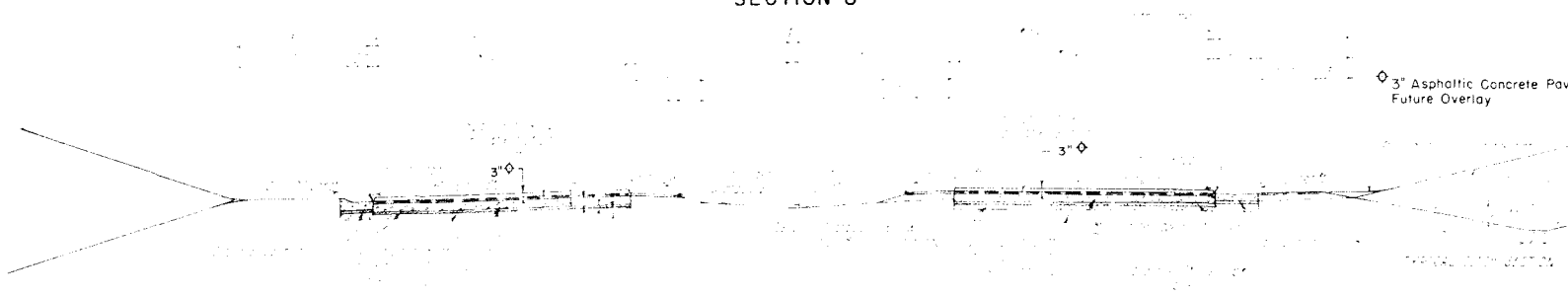


TYPICAL SECTIONS

Rev. Sect. To Show Future Overlay, E.E.O. 1-10-61

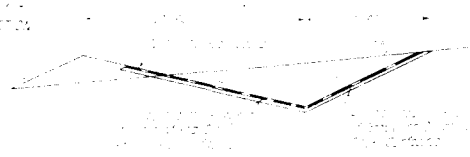
FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	Combined District 4 1000-0234-4 1000-0179-7 1002-01381	4	

SECTION 8

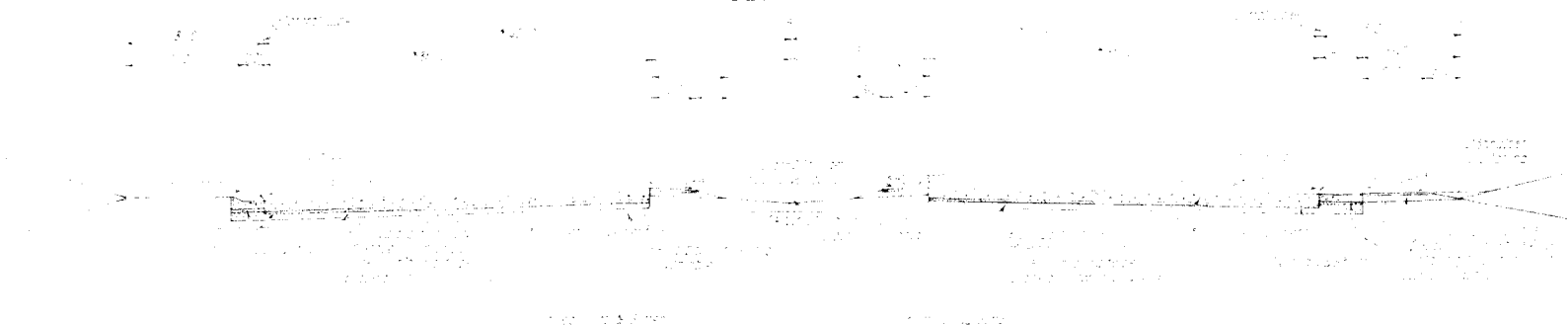


◇ 3" Asphaltic Concrete Pavement Future Overlay

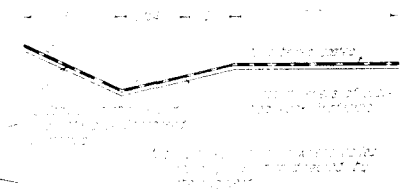
TYPICAL SECTION—INTERCEPTING DITCHES



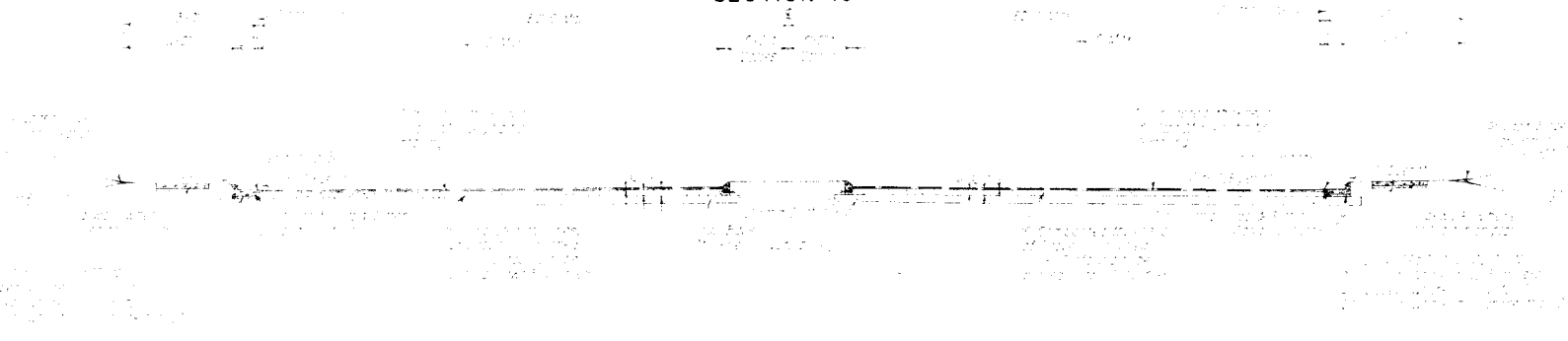
SECTION 9



TYPICAL SECTION FOR ROADWAY DITCH PAVING



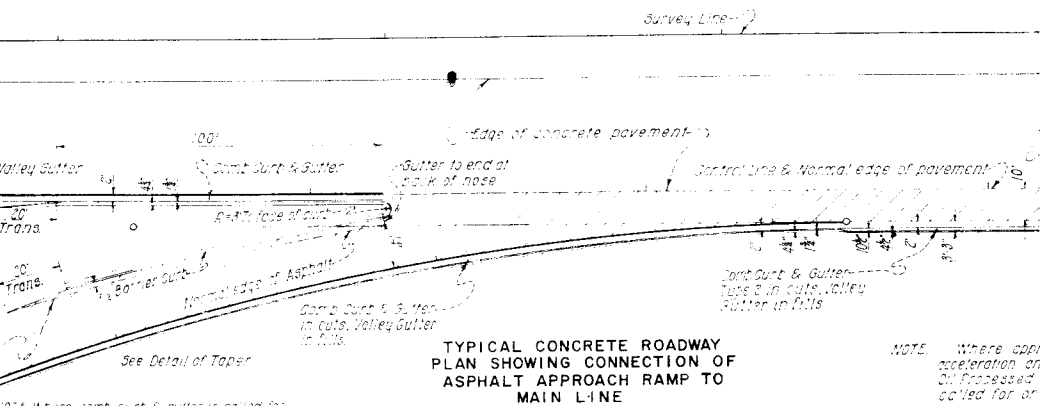
~~SECTION 10~~



FED. ROAD DIVISION NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	Combined Project HIGGS-GRANDVIEW -HIGGS-GRANDVIEW (002-2338)	5	

TYPICAL RAMP DETAILS

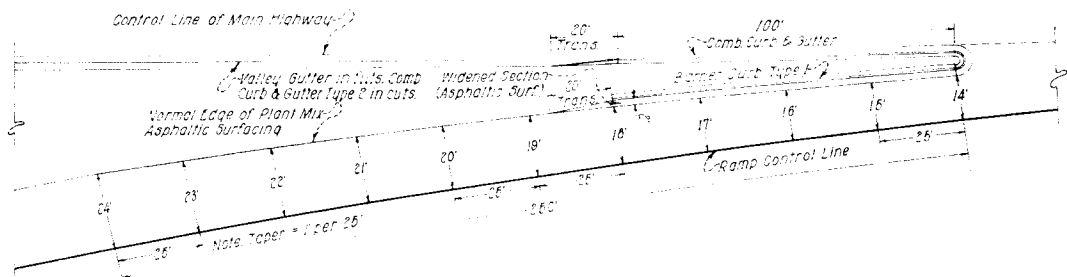
SHOWING CURB & GUTTER DETAIL



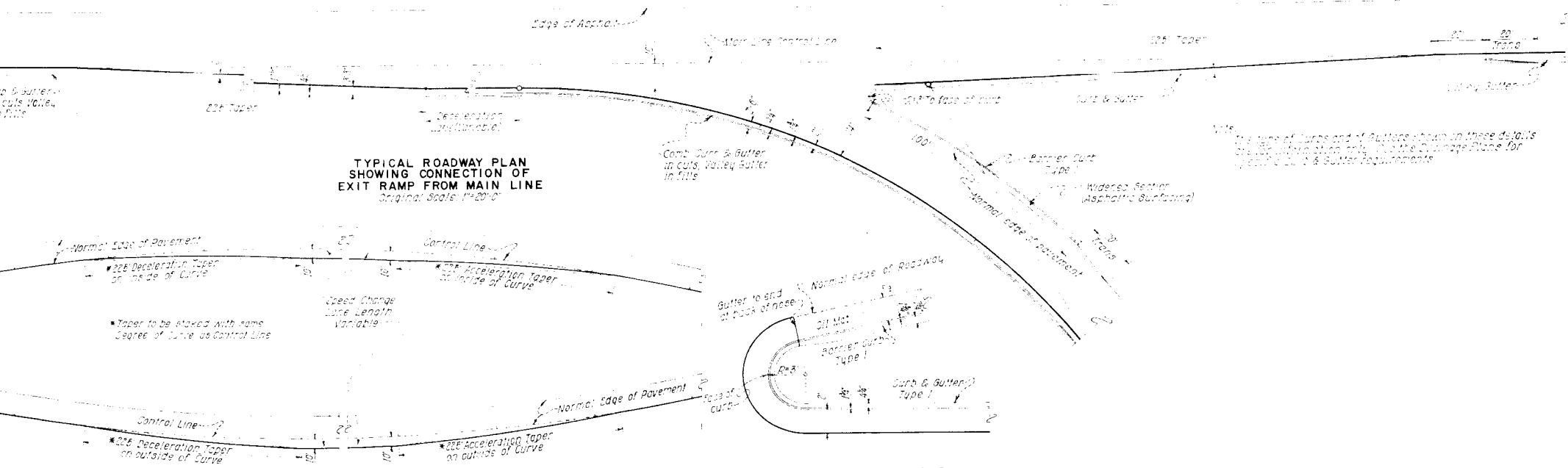
TYPICAL CONCRETE ROADWAY PLAN SHOWING CONNECTION OF ASPHALT APPROACH RAMP TO MAIN LINE
Original Scale: 1"=20'-0"

NOTE: Where comb curb & gutters called for in place of barrier curb the comb curb & gutter will be placed in same relative position of normal edge of pavement.

NOTE: Where approach or exit ramps connect with concrete pavement, acceleration and deceleration lanes will be constructed with Plant Mix Oil Processed Surfacing to meet edge of concrete pavement as called for on plans.

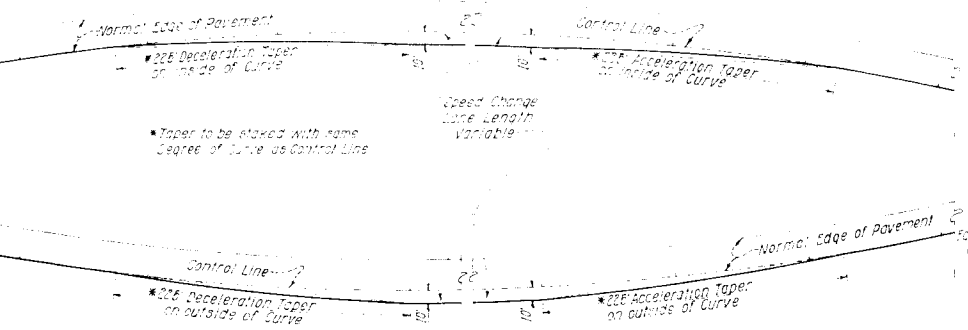


TYPICAL TAPERED SECTION FOR RAMP APPROACHES
Original Scale: 1"=10'-0"

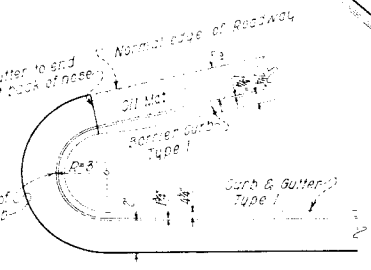


TYPICAL ROADWAY PLAN SHOWING CONNECTION OF EXIT RAMP FROM MAIN LINE
Original Scale: 1"=20'-0"

NOTE: The type of curb and of gutters shown in these details shall be in accordance with the Storage Plans for Typical Curb & Gutter Requirements.



DETAIL OF TAPER LOCATED ON CURVE
Original Scale: 1"=10'-0"



DETAIL OF NOSE CURB
Original Scale: 1"=4'-0"

TABULATION OF LENGTH & DESIGN DATA

STATION	ROADWAY	BRIDGE	NO WORK
	LIN. FT.	LIN. FT.	LIN. FT.
142+70 BEGIN I CC2-2(38) END U1 CC2-2(B) SECTION 1 = BEGIN U1 CC2-2(23) 169+27.5 END WORK SECTION	2,657.5		832.5
177+60 END U1 CC2-2(23) = BEGIN U1 CC2-2(6) SECTION 2			2,717.2
204+77.2 BK. = 204+56.5 AN. EQUATION			868.5
213+20 BEGIN U1 CC2-2(17) = END U1 CC2-2(B) SECTION 2			277.6
115+52.6 BEGIN WORK SECTION	789.1		
223+22.1 BK. = 223+16.0 AN. EQUATION	712.7		
210+26.7 BEGIN BRIDGE U1 CC2-2(17) UNIT 6			138.8
231+67.5 END BRIDGE U1 CC2-2(17) UNIT 6	67.8		
232+55.3 BEGIN BRIDGE U1 CC2-2(17) UNIT 5			172.5
234+27.8 END BRIDGE U1 CC2-2(17) UNIT 5			
247+59.2 END U1 CC2-2(17) BEGIN U1 CC2-2(10)	1,327.7		
261+86.9 TO 262+40.7 WEST 8TH AVE OVERPASS	2,472.6	153.6	
287+13.3 TO 288+60.4 C. & S. R. OVERPASS	1,139.6		147.1
292+00.0 TO 1 CC2-2(38) = END U1 CC2-2(10)			
TOTALS	10,498.8	153.6	5,104.2
SUMMARY		LIN. FT.	MILES
ROADWAY		10,498.8	1.988
BRIDGE		153.6	0.009
NET LENGTH OF I CC2-2(38)		10,652.4	2.017
NO WORK		5,104.2	0.967
GROSS LENGTH OF I CC2-2(38)		15,756.6	2.984
DESIGN DATA			
MAXIMUM DEGREE OF CURVE		47.00'	
MAXIMUM GRADE		3.70%	
MINIMUM N.P.S. E. - HORIZONTAL		100 FT	
MINIMUM N.P.S. V. - VERTICAL		415'	
MAXIMUM DESIGN SPEED		50 M.P.H.	

GENERAL NOTES

THIS PROJECT IS TO BE CONSTRUCTED IN CONFORMITY WITH THE STANDARD SPECIFICATIONS OF THE COLORADO DEPARTMENT OF HIGHWAYS, ADOPTED JUNE 1, 1952.

ALL QUANTITIES ON PRELIMINARY PLANS ARE TO BE CONSIDERED APPROXIMATE ONLY.

ALL CURVES ARE TO BE SUPERELEVATED AND WIDENED AS PROVIDED BY THE SUPERELEVATION SHEETS INCLUDED WITH THE PLANS.

FOR PRELIMINARY PLAN QUANTITIES OF ASPHALTIC ROAD MATERIAL & PLANT MIXED ASPHALTIC SURFACING THE FOLLOWING RATES OF APPLICATION WERE USED:

PRIME COAT (Over Concrete) PC	0	0.10 Gal. per Sq. Yd.
PRIME COAT (Over other Areas) MC	0	0.10 Gal. per Sq. Yd.
PLANT MIXED ASPHALTIC SURFACING	2	110 Lbs. per Sq. Yd. per inch thickness
ASPHALT 1120 - 150 Penetration	0	6.5 Lbs. per Sq. Yd. per inch thickness

RATE OF APPLICATION AND GRADE OF ASPHALTIC MATERIAL SHALL BE AS DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION.

FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
5	COLORADO	1 002-2(38)	6	

TABULATION OF SECTIONS

TYPICAL SECTION NUMBER	LOCATION	STA. TO STA.	PV/M/T WIDTH	REMARKS
-(U1-002-2(23) Unit 4)-				
8	Mainline	142+70 - 147+00	2-24'	50' Median
1	"	147+00 - 169+27.50	2-24'	50' Median
3	Ramp S.E.-1 - Speer Interchange	0+00 - 11+00	24'-16'	Width Variable
3	" S.E.-2 - " "	2+14 - 9+37.55	24'-14'	" "
3	" N.E.-1 - " "	1+43 - 10+11.46	24'-14'	" "
3	" N.E.-2 - " "	0+00 - 6+76	24'-16'	" "
3	" N.W.-1 - " "	0+00 - 11+65	24'-16'	" "
3	" N.W.-2 - " "	2+21 - 9+66.99	24'-14'	" "
3	" S.W.-1 - " "	2+50 - 12+56.53	24'-14'	" "
3	" S.W.-2 - " "	0+00 - 8+12	24'-16'	" "
5	South Outer Highway	0+00 - 7+91.60	24'	
5	Water St. to Platte St.	10+01.91 - 14+11.46	36'	Begin at 10+01.91
-(U1-002-2(17) Unit 7)-				
1	Mainline	215+52.55 - 223+22.08	2-24'	50' Median
1	"	223+15.21 Ah - 226+65.21	2-24' to 36'	(See Plan)
9	"	226+65.21 - 230+10.00	2-36'	26' Median
9	"	231+48.79 - 232+55.56	2-36'	26' Median
9	"	234+28.14 - 240+00	2-36'	26' Median
4	Market St. North Side	17+63.81 - 24+00	34'-24'	Width Variable
4	" " South "	17+63.81 - 24+00	24'	
3	West Outer Connection	2+43.81 - 22+71.31	34'-24'-14'	Width Variable
3	" Inner "	0+00 - 15+52.06	20'-16'	" "
3	" East "	0+00 - 11+61.50	16'-24'-16'	" "
3	" Outer "	0+00 - 17+63.81	24'	
5	West Outer Highway	10+00 - 14+68.30	24'	
5	D.&R.G. Connection	0+00 - 2+00	24'	
3	North Ramp (Colfax East)	0+00 - 3+09.06	20'-14'	
3	South " " " "	5+07.22 - 7+50	20'-14'	
-(U1-002-2(30) Unit 1)-				
9	Mainline	240+00 - 260+71.91	2-36'	26' Median
9	"	262+55.71 - 287+40	2-36'	" "
9	"	288+75 - 298+00	2-36'	" "
5	W. Mulberry Pl.	1+50 - 3+18	36'	Connects to N.E.-1 & S.E.-1
3	S.E.-1 - Mulberry Conn.	0+85 - 1+50	20'	
3	N.E.-1 - " "	0+08 - 0+90	20'-14'	Width Variable
1	6th Ave. - 6th Ave. Interchange	56+53.80 - 61+63	2-24'	30' Median
1	" " " " "	63+63 - 68+50	2-24'	30' Median
3	SW-1 - " " " "	1+68 - 15+38.25	24'-14'	Width Variable
3	SW-2 - " " " "	0+00 - 12+50.07	24'-14'	" "
3	S.E.-1 - " " " "	2+29.38 - 10+50	24'-14'	" "
3	S.E.-2 - " " " "	0+00 - 6+40.40	24'-14'	" "
3	N.E.-1 - " " " "	0+85 - 12+86.03	24'-14'	" "
3	N.E.-2 - " " " "	0+00 - 9+93.17	24'-14'	" "
3	N.W.-1 - " " " "	2+30 - 12+45.93	24'-14'	" "
3	N.W.-2 - " " " "	0+00 - 5+78.26	24'-14'	" "
5	South River Drive to 8th Ave.	0+00 - 20+01.33	40'	
3	N.W.-1 - River Drive Conn.	0+60 - 2+20	20'	
3	S.W.-1 - " " " "	0+60 - 2+75	20'-14'	Width Variable

SUMMARY OF APPROXIMATE QUANTITIES

FEDERAL ROAD DISTRICT	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	1 002-2 (38)	9	

ITEM NO.	ITEM	UNIT	ROADWAY	15th ST UNDERPASS STRUCTURE NO. E-16-EP	8th AVE OVERPASS STRUCTURE NO. F-16-DX	6th AVE UNDERPASS STRUCTURE NO. F-16-DU	PROJECT TOTAL
1324-1	10" REINFORCED CONCRETE PIPE SEMI	LIN. FT.	12,700				12,700
1324-2	12" REINFORCED CONCRETE PIPE SEMI	LIN. FT.	4,610				4,610
1324-3	18" REINFORCED CONCRETE PIPE SEMI	LIN. FT.	4,260				4,260
1324-4	24" REINFORCED CONCRETE PIPE SEMI	LIN. FT.	1,100				1,100
1324-5	30" REINFORCED CONCRETE PIPE SEMI	LIN. FT.	425				425
1324-6	36" REINFORCED CONCRETE PIPE SEMI	LIN. FT.	670				670
1324-7	MANHOLE TYPE 143 14-FT. DEEP	EACH	4				4
1324-8	MANHOLE TYPE 143 12-FT. DEEP	EACH	7				7
1324-9	MANHOLE TYPE 143 10-FT. DEEP	EACH	2				2
1324-10	MANHOLE TYPE 143 8-FT. DEEP	EACH	4				4
1324-11	MANHOLE TYPE 143 6-FT. DEEP	EACH	1				1
1324-12	MANHOLE TYPE 143 4-FT. DEEP	EACH	2				2
1324-13	MANHOLE TYPE 143 3-FT. DEEP	EACH	1				1
1324-14	MANHOLE TYPE 143 18-FT. DEEP	EACH	1				1
1324-15	MANHOLE TYPE 143 15-FT. DEEP	EACH	1				1
148	PUMPING PLANT EQUIPMENT	LUMP SUM	•				•
152A	FLARED END SECTIONS FOR 15" REINFORCED CONCRETE CULVERT PIPE	EACH	1				1
152B	FLARED END SECTIONS FOR 18" REINFORCED CONCRETE CULVERT PIPE	EACH	1				1
152C	FLARED END SECTIONS FOR 24" REINFORCED CONCRETE CULVERT PIPE	EACH	3				3
152E	FLARED END SECTIONS FOR 42" REINFORCED CONCRETE CULVERT PIPE	EACH	1				1
149	STRUCTURAL STEEL	Lb.	397,700				397,700
	STATE FURNISHED MATERIAL						
	FDSEE ACCOUNT						
	REMOVE PORTION OF EXISTING 14th ST. VIADUCT APPROACH -		•				•
	INSTALL FLASHING SIGNAL LIGHTS NEAR 8th AVE MANHOLE		•				•
	(WORK BY C. E. T. E.P. SEC. FORCES)						

TABULATION OF SURFACING

PROJECT: #002-2(23)-Unit 4

LOCATION	STA.	STA.	LENGTH	BASE COURSE GRAVEL SURF. 4" THICK		GRAVEL SH/LDR SURFACING 2" THICK		PRIME COAT R.C. Over Concrete		OIL MAT SEAL COAT STONE-SCR-66		OIL MAT SEAL COAT MAT		STONE SCR GS		2" SAND CUSHION CU. YDS.	
				WIDTH	TONS	WIDTH	TONS	WIDTH	TONS	WIDTH	SQ.YDS	WIDTH	SQ.YDS	TONS	GALS.		TONS
Main Line Left Lane	39+00	142+70	37000	Variable	4121	10	416	25	10278	1028	24	9867	107.1	2467	12.3	640	
	42+70	147+00	43000	Variable	4789	10	484	25	11944	1194	24	11467	124.4	2866	14.3	743	
	47+00	148+61.3	16113	370	201.2	10	181	25	4476	1730	24	4297	46.6	1074	5.4	40	
	48+61.3	150+62	20087	295	2000	4	90	25	5580	2232	24	5357	58.1	1339	6.7	40	
	50+62	152+05	143000	295	1424	4	64	25	3972	1589	24	3813	41.4	953	4.8	22	
	52+05	156+17.61	41261	295	4108	4	186	25	11461	4584	24	11003	1194	2751	13.8	68	
	56+17.61	158+91.18	27357	470	4340	10	308	35	10639	4256	34	10333	112.1	2882	12.9	68	
	58+91.18	160+21	12982	295	1292	4	58	25	3606	1442	24	3462	37.6	866	4.3	32	
	60+21	162+26	20500	295	2041	4	92	25	5694	2278	24	5467	59.3	1367	6.8	32	
	62+26	166+91	46500	295	4630	4	209	25	12917	5167	24	12400	134.5	3100	15.5	74	
	66+91	169+91	30000	470	746	10	33.8	35	1166.7	466.7	34	1133.3	123.0	2833	14.2	74	
	Total				31503		2426		92234	30227		88799	9635	2219.8	11	1619	
	Main Line Right Lane	139+00	142+70	37000	Variable	4121	10	416	25	10278	1028	24	9867	107.1	2467	12.3	640
		142+70	147+00	43000	Variable	4789	10	484	25	11944	1194	24	11467	124.4	2867	14.3	743
		147+00	149+97	29700	370	3709	10	334	25	8250	3500	24	7920	85.9	1980	9.9	7.3
		149+97	154+78	48100	295	4789	4	216	25	13361	5344	24	12827	139.2	3207	16.0	2.7
154+78		156+52	17400	295	1732	4	78	25	4833	1933	24	4640	50.3	1160	5.8	2.7	
156+52		157+90.9	13509	295	1385	4	63	25	3864	1546	24	3709	40.2	927	4.7	9.3	
157+90.9		161+66.13	37504	470	5949	10	42.2	35	14585	5834	34	14168	153.7	3542	17.7	9.3	
161+66.13		165+68	40187	295	4001	4	181	25	11163	4465	24	10717	116.4	2679	13.4	2.7	
165+68		167+44	17600	295	1752	4	79	25	4889	1956	24	4693	50.9	1173	5.9	2.7	
167+44		168+77	13300	295	1324	4	60	25	3694	1477	24	3547	38.5	887	4.4	2.3	
168+77		169+70	9500	470	1475	10	10.5	35	361.7	144.7	34	351.3	38.1	878	4.4	2.3	
Total					35026		2438		90478	29524		87068	9447	21767	1088	1626	
42667 Sq. Yds. of Concrete From Sta. 139+70 to Sta. 147+00 (Under 2" Oil Mat)																	
Total					66529		4864		182712	59751		175867	19082	43965	2198	3245	
Spear Blvd. Ramps		0+00	11+65	116500	Variable	11916	Variable	899	Variable	28453	11381	Variable	28016	3040	7004	350	330
		2+21	9+6639	74599	"	8307	"	81.5	"	17801	7120	"	17288	1876	4322	216	191
	1+43	10+1146	86846	"	7845	"	640	"	18847	7539	"	17987	1952	4498	225	151	
	0+00	6+67	67600	"	8186	"	641	"	20434	8174	"	18028	1956	4507	225	168	
	2+50	11+84	93400	"	9808	"	824	"	22839	9136	"	22112	2399	5528	276	203	
	0+00	8+12	81200	"	9785	"	874	"	21973	8789	"	19690	2136	4923	246	205	
	0+00	11+00	110000	"	11884	"	911	"	28896	1155.8	"	28093	3048	7053	351	222	
	2+14	9+3755	72355	"	8599	"	703	"	17400	6960	"	16904	1834	4226	211	174	
	Ramp Totals				76330		6307		176643	70657		16818	18241	42031	2100	1644	
	Outerhwy, 8th St. to 10th St. Water St. to Platte St. * Central Street	0+00	7+9160	93660	240	7586			24	24977	9990	24	24977	2710	6244	312	289
10+0191		13+1722	43655	Variable	5591			Variable	18405	7362	Variable	18405	1997	4601	230	134	
0+00		2+57	25700	360	3103			30	8567	3426	30	8567	942			79	
Outerhighway Totals				13280				51949	20778		51949	5649	12987	649	502		
Sub-Totals				5939		11171		41304	1518.6		395934	42972	9899.3	4947	5391		
Unit 4 - Second Contract (DELETED)																	
* INCLUDED IN THIS CONTRACT																	

FED. ROAD DIST. NO.	STATE COLO.	PROJ. NO. 11002-2(23)-Unit 4	SHEET NO. 10	TOTAL SHEETS 10
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FOR INFORMATION ONLY
EXCEPT AS NOTED

TABULATION OF SURFACING

PROJECT: 11-002-0171 Unit 7

LOCATION	STA.	STA.	LENGTH	BASE COURSE GRAVEL SURF 4" - 6" THICK		GRAVEL SH/LDR SURFACING 2" THICK		PRIME COAT MC RC. Over Concrete	OIL MAT SEAL COAT STONE SCR GS		2" SAND CUSHION CU YDS.							
				WIDTH	TONS	WIDTH	TONS		WIDTH	SQYDS		GALS.	WIDTH	SQYDS	TONS	GALS.	TONS	
Main Line Rt. Lane	216+50	216+65	15.00	41.0	20.7	14	2.4	26	43.3	173	24	40.0	4.3	10.0	0.5			
	216+65	218+90	225.00	42.0	38.9	30	25.3	30	7500	3000	29	7230	78.7	181.3	9.1	5.6		
	218+90	221+69.57	279.67	47.0	44.3	10	31.5	35	1087.2	434.8	34	1056.2	114.6	264.0	13.2	6.9		
	221+69.57	225+35	365.43	29.5	36.3	4	16.4	24.5	994.8	397.9	24	974.5	105.7	243.6	12.2			
	225+35	225+86.08	51.09	29.5	50.9	4	2.3	25	141.9	56.8	24	136.2	14.8	34.0	1.7	0.8		
	225+86.08	227+36.09	150.00	35.5	19.7	4	6.8	31	516.7	206.6	30	500.0	54.2	125.0	6.2	2.3		
	227+36.09	228+41	104.91	44.1	156.1	4	4.7									24.9		
	228+41	230+48	207.00	36.0	251.5	4	9.3									46.0		
	230+48	232+28	180.00	36.0	57.1	4	2.1									10.4		
	232+28	232+75	47.00	46.8	809.2	10	57.6									126.4		
	232+75	234+88	213.00															
	234+88	240+00	512.00															
	Total Rt. Lane			2651.4		158.4			3533.9	1413.4			3431.9	372.3	857.9	42.9	223.3	
	Main Line Lt. Lane	215+05	217+30	225.00	46.0	349.3	14	35.4	31	7750	3097	29	7250	78.7	181.3	9.0		
217+30		218+95.66	165.66	51.0	285.1	14	26.1	36	662.6	264.8	34	625.8	67.9	156.5	7.8			
218+95.66		221+35	239.34	29.5	238.3	4	10.8	25	664.8	265.7	24	638.2	69.2	159.6	8.0			
221+35		223+01.53	166.53	29.5	165.8	4	7.5	25	482.6	184.9	24	444.0	48.2	11.0	5.5	2.6		
223+01.53		228+91.53	350.00	41.5	419.3	4	15.8	31	1205.6	481.7	30	1166.7	128.6	281.7	14.5	5.4		
228+91.53		229+00	248.47	41.5	348.0	4	11.2									55.2		
229+00		229+68	68.00	46.83	107.5	10	7.6									16.8		
229+68		231+47	179.00	46.83	74.3	10	5.3									11.6		
231+47		231+94	47.00	46.83	937.2	10	66.7									146.4		
231+94		234+07	213.00															
234+07		240+00	593.00															
Total Lt. Lane				2924.8		186.4			3770.6	1506.8			3599.7	390.6	900.1	45.0	238.0	
Flores for Bridges (4)				Var.					122	48.9	Var.		122	13.2	30.5	1.5	1.4	
Market St. Ramps		8+74.35	9+05	Var.	40.1	40.1	6	1.9	24	74.6	29.8	24	74.7	8.1	18.7	0.9	0.8	
	9+05	9+33	28	31.5	29.8	6	4.5	24	271.0	108.3	Var.	271.0	29.4	67.1	3.4	3.0		
	9+33	10+00	Var.	99.4	99.4	6	23.4	24	922.7	368.7	24	922.7	100.1	230.7	11.5	13.9		
	10+00	13+46	346	31.5	367.8	6	23.4	24	181.3	72.5	24	181.3	19.7	45.3	2.3	1.0		
	13+46	14+14	68	24.0	55.1	6	6.6	19	337.7	133.0	19	337.7	36.6	84.4	4.2	4.9		
	14+14	15+74	160	19.0	102.6	6	3.3	24	58.0	23.2	Var.	58.0	6.3	14.5	0.7	1.2		
	13+46	13+95	158.01	31.5	146.7	6	9.3	24	368.0	147.1	24	368.0	39.9	92.0	4.6	5.5		
	13+95	15+33.01	Var.	50.7	50.7	6	4.6	36	167.0	66.7	Var.	167.0	18.1	41.7	2.1	2.3		
	15+33.01	16+01.07	52.93	43.5	77.7	6	3.6	36	211.7	84.6	36	211.7	23.0	52.9	2.6	2.1		
	16+01.07	16+54	52.93															
	Total West Outer Highway			999.9		50.6			2699.1	1078.6			2699.1	292.8	674.6	33.6	35.4	
	Conn.W. Colfax to W. Outer Ramp (East Outer Conn.)	0+80	0+00	80.00	21.25	57.4	6	4.4	21.25	189.0	75.5	21.25	189	20.5	47.2	2.4	1.2	
		0+00	0+65	65.00	23.75	52.1	6	4.2	16.25	117.4	46.9	16.25	117.4	12.7	29.4	1.4	2.6	
		0+65	1+27	62.00	Var.	61.9	6	6.5	Var.	152.0	60.7	Var.	152	16.5	38.0	1.9	2.5	
1+27		2+32.02	96.02	Var.	52.4	6	6.5	Var.	92.0	36.8	Var.	92	10.0	23.0	1.2	2.4		
Total W. Colfax to W. Outer Ramp (East Outer Conn.)				223.8		15.1			550.4	219.9		550.4	59.7	137.6	6.9	8.7		
Temp. Ramp (East Outer Ramp)		0+00	2+25	Var.	221.5	221.5	6	15.2	Var.	542.0	216.6	Var.	542	58.8	135.5	6.8	5.6	
		2+25	3+84	159.00	32.0	171.7	6	10.7	24.5	432.8	173.1	24.5	432.8	47.0	108.2	5.4	6.4	
		3+84	3+89.27	5.27	31.5	5.6	6	0.4	14.0	14.0	5.6	24.0	14.0	1.5	3.5	0.2	0.2	
		3+89.27	5+63	173.73	24.0	140.7	6	6.0	20	463.3	185.3	24.0	463.3	50.3	15.8	5.8	2.7	
		5+63	7+70	207.00	24.0	167.7	6	10.4	24.0	552.0	220.8	24.0	552.0	59.9	38.0	6.9	6.4	
		7+70	8+65.74	95.74	24.0	77.5	6	5.5	19	235.3	102.1	24.0	235.3	27.7	63.8	3.2	1.5	
		8+65.74	11+50	294.26	24.0	230.2	6	6.5	14	758.0	303.2	24.0	758.0	82.2	89.5	9.5	8.8	
		11+50	16+40	490.00	43.0	711.1	16	88.2	26.0	1415.6	566.2	24.0	1306.7	141.8	326.7	16.3	16.3	
		Total (East Outer Ramp)			1726.0		114.5			4433.0	1772.9		4324.1	469.2	1081.0	54.1	31.6	
	Ramp (East Inner Ramp) Temp	1+30	4+50 BK	320.00	37.0	378.0	16	57.6	18	640.0	256.0	16	569	61.7	142.2	7.1		
		3+75.79	5+75	195.21	35.0	235.3	16	35.8	18	398.4	159.2	16	354	38.4	89.5	4.4		
		5+75	8+75.89	89.11	16.0	162.5	6	6.0	20	534.9	213.7	20	535	58.0	133.8	6.7	9.3	
		8+75.89	9+65	27.5	82.7	8.2	6.0	20	198.0	79.1	20	198	21.5	49.5	2.5	3.6		
		9+65	10+42	77.00	39.0	101.4	6	10.4	25	213.9	83.5	24	205	22.2	51.2	2.5	1.9	
10+42		11+24	82.00	26.5	73.3	6	5.5	19	173.1	69.2	19	173	18.8	43.2	2.4	2.4		
11+24		12+20	96.00	Var.	92.3	6	6.5	14	224.0	89.5	Var.	224	24.3	56.0	2.8	2.4		
12+20		13+61.93	141.93	24.5	117.4	10	16.0	14	220.8	88.2	13	205	22.2	51.2	2.6	2.6		
Total (East Inner Ramp)				1242.9		137.8			2603.1	1040.4		2463	267.1	(DELETED)	30.9	19.6		

FED. DIST. NO. STATE PROJ. NO. SHEET NO. TOTAL SHEETS

FOR INFORMATION ONLY EXCEPT AS NOTED

TABULATION OF SURFACING

PROJECT 11-002-2171-1111

LOCATION	STA.	STA.	LENGTH	BASE COURSE GRAVEL SURF. 4'-6" THICK		GRAVEL SH.LDR SURFACING 2" THICK		PRIME COAT MC R.C. Over Concrete		OIL MAT SEAL COAT-STONE SER-66	OIL MAT SEAL COAT-TONS	STONE SCR-66	2" SAND CUSHION CU. YDS.		
				WIDTH	TONS	WIDTH	TONS	WIDTH SQ.YDS	GALS.					WIDTH SQ.YDS	GALS.
				WIDTH	TONS	WIDTH	TONS	WIDTH SQ.YDS	GALS.					WIDTH SQ.YDS	GALS.
Market St. Ramps (Cont.)															
So. Leg Wye to Colfax	3+89.27	5+65	175.73	Var.	35.4	Var.	117.0	46.7	117.0	117.0	12.7	29.2	1.5		
	5+65	7+38	173.00	17.0	99.2	17	327.0	130.6	327.0	35.5	81.8	4.1	5.3		
	7+38	7+52.22	14.22	18.0	8.6	18	28.0	11.4	28.0	3.0	7.0	0.4	0.2		
Total So. Leg Wye to Colfax					143.2		472.0	188.7	472.0	51.2	118.0	6.0	8.2		
No. Leg Wye to Colfax	0+28	0+43	15.00	22.0	11.1	22	37.0	14.7	37.0	4.0	9.2	0.5	0.2		
	0+43	2+18	175.00	17.0	100.4	17	331.0	132.1	331.0	35.9	84.8	4.1	5.4		
	2+18	3+05.06	91.06	Var.	22.3	Var.	73.0	29.3	73.0	7.9	18.2	0.9	1.4		
Total No. Leg Wye to Colfax					133.8		441.0	176.1	441.0	47.8	110.2	5.5	7.0		
R.R. Service Road	0+00	2+00	200.00	24.0	162.0	24	533.3	213.1	533.3	57.8	133.3	6.7	6.2		
	2+00	4+07.60	207.60	35.0	246.2	8	599.7	239.6	599.7	60.0	138.4	6.9			
Total R.R. Service Road					407.2		1133.0	452.7	1086.9	117.8	271.7	13.6	6.2		
W Outer Conn. to Serv. Rd.	7+55.90	9+86.54	Var.	Var.	280.1	Var.	922.0	368.9	922.0	100.0	230.5	11.5	6.2		
Total W. Outer to Serv. Rd.					280.1		922.0	368.9	922.0	100.0	230.5	11.5	6.2		
West Outer Conn.	3+96	4+30	34.00	51.5	59.1	10	154.9	61.9	154.9	15.1	37.8	1.9			
	4+30	7+90	320.00	43.0	464.4	16	924.4	369.4	853.3	92.6	213.3	10.7			
	7+90	8+57	107.00	24.0	86.7	24	285.3	114.0	285.3	30.9	71.3	3.6	1.6		
	8+57	16+07	750.00	24.0	607.5	24	2000.0	799.2	2000.0	217.0	500.0	25.0	23.1		
	16+07	17+09.35	102.35	24.0	82.9	24	272.9	109.0	272.9	29.6	68.7	3.4	1.6		
	17+09.35	20+19	309.65	39.0	407.6	12	860.1	343.7	825.7	89.6	206.4	10.3	7.6		
	20+19	21+19	100.00	33.5	113.1	6	277.8	111.0	266.7	31.3	72.2	3.6	2.9		
	21+19	Eq. 230+00	152.31	Var.	113.3	6	246.0	98.3	246.0	26.7	61.5	3.1	3.8		
	Eq. 230+00	230+48	48.00	17.5	28.4	6	53.3	21.3	53.3	5.8	13.3	0.7	1.2		
	230+48	232+28	47.00	12.5	19.8	6	26.1	10.4	26.1	2.8	6.5	0.3	1.2		
	232+28	232+75	47.00	12.5	19.8	6	26.1	10.4	26.1	2.8	6.5	0.3	1.2		
	Total West Outer Conn.					1982.8		5100.9	2038.2	5002.6	542.7	1250.5	62.6	43.0	
	West Inner Ramp	0+00	1+15	Var.	Var.	142.2	6	372.0	149.8	372.0	40.3	93.0	4.6	6.4	
1+15		2+02	87.00	27.5	60.8	6	193.3	77.3	193.3	21.0	48.3	2.4	2.6		
2+02		3+25	123.00	31.0	128.7	12	232.3	92.9	218.7	24.3	54.7	2.7	3.0		
3+25		5+25	200.00	23.5	158.6	6	355.5	142.2	355.5	38.6	88.7	4.4	8.0		
5+25		10+60	535.00	16.0	288.9	16	951.1	380.4	951.1	103.2	237.8	11.9	16.5		
10+60		13+30	270.00	35.0	318.9	16	540.0	216.0	480.0	52.1	120.0	6.0	5.0		
13+30		13+70	40.00	27.5	37.1	10	75.6	30.2	71.1	7.7	17.8	0.9	0.9		
13+70		14+05	35.00	16.0	18.9	16	62.2	24.9	62.2	6.7	15.5	0.8	0.8		
Total West Inner Ramp						1174.1		2782.0	1112.7	2703.9	293.9	676.0	33.7	36.5	
												(DELETED)			
Sub. Total					5389.0		31903.0	11752.2	31158.6	3390.7			665.1		

~~11-002-2171-1111~~
~~Second Contract~~

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	Combined Project 11-002-2171-1111 11-002-2171-1112 11-002-2171-1113	12	12

FOR INFORMATION ONLY EXCEPT AS NOTED

TABULATION OF SURFACING

PROJECT U-002-2(38) Unit 1

LOCATION	STA.	STA.	LENGTH	BASE COURSE GRAVEL SURF. 4"-6" THICK		GRAVEL SURF. 2" THICK		PRIME COAT MC RC Over Concrete	OIL MAT SEAL-COAT-STONE-6R-66		OIL MAT SEAL-COAT-MAT	SEAL OAT	STONE SCR'G'S	2" SAND CUSHION
				WIDTH	TONS	WIDTH	TONS		WIDTH SQ.YDS	GALS.				
6th Ave. Lt. Lane (Str. No. F-16-EE) (Str. No. F-16-DY) (Str. No. F-16-EI) " " " " " " " " " " " " " " " " " "	54+80	56+78	198.00	29.5	3116	4	14.1	7480	748	34	7480	812	1870	94
	56+78	59+91	313.00	47.0	2189	10	15.5	8694	3478	24	8694	897	2067	104
	59+91	61+29	136.00	47.0	2189	10	15.5	5367	2147	34	5213	566	1303	65
	61+29	63+64	235.00	47.0	30.1	10	2.1	8878	888	34	8878	963	2420	110
	63+64	63+83	19.00	29.5	76.7	4	3.5	2139	296	34	2053	78	179	09
	63+83	64+60	77.00	29.5	117.5	4	5.3	3278	131.1	24	3147	34.1	76.7	39
	64+60	65+78	18.00	29.5	279.3	4	12.6	792	311.7	24	7480	812	1870	94
	65+78	68+58.50	280.50	17.19				796	80	Variable	796	86	149	10
	68+58.50	68+75.69	17.19	59.67				2409	24.1	"	2409	26.1	60.2	30
	68+75.69	69+27.18	59.67	118.14				4463	446	34	4463	484	1116	56
6th Ave. Rt. Lane (Str. No. F-16-EF) (Str. No. F-16-DU) (Str. No. F-16-EU) " " " " " " " " " " " " " " " " " "	54+74	56+72	198.00	29.5	3086	4	14.0	7480	748	34	7480	812	1870	94
	56+72	59+82	310.00	29.5	797	4	3.6	8611	3444	24	8267	897	2067	103
	59+82	60+62	80.00	29.5	976	4	4.4	2222	889	24	2133	23.1	53.3	27
	60+62	61+60	98.00	29.5	976	4	4.4	2722	1089	24	2613	28.4	65.3	33
	61+60	63+95	235.00	47.0	264.9	10	18.8	8878	888	34	8878	963	2220	110
	63+95	65+62	167.00	29.5	2987	4	13.5	6494	2598	34	6309	685	1577	79
	65+62	68+62	300.00	29.5				8333	3333	24	8000	868	2000	100
	68+62	68+68.88	6.88	79.83				220	22	Variable	220	24	45	03
	68+68.88	69+47.34	79.83	108.29				3542	354	"	3542	384	88.5	44
	69+47.34	70+55.63	108.29	51.0	33.3	14	3.1	4081	409	34	4081	444	1023	51
Total 6th Ave. Rt. Lane Medion Flores 2 Flores 2 Flores 2 Flores 2 Flores Total Medion Flores Total 6th Ave. Main Line Sub-Total U1002-2(38) Unit 1 Second Contract Combined Project Second Contract Combined Total	70+55.63	70+75	225.00	46.0	3493	14	35.4	7750	3100	29	7250	787	1813	91
	70+75	73+00	350.00	41.0	4843	14	55.1	10111	4044	24	9333	1013	2333	117
	73+00	76+50	350.00	1916.4				71229	21228		68848	747.1	1712	86.1
	56+78	61+69	156.00	Variable				306	122	Variable	306	33	7.7	0.4
	61+69	63+64	156.00	"				306	122	"	306	35	7.7	0.4
	63+64	68+58.50	156.00	"				306	122	"	306	33	7.7	0.4
	68+58.50			1224	488			1224	488		1224	132	308	15
				3823.2	296.2			14320.6	4281.1		13843.0	1502.1	3461.0	173.2
				37,655.8	1,542.0			58,562.2	21,049.2		57,266.3	6,213.6	14,270.6	713.5
				15,913.9	1,171			41,304.1	15,118.6		39,893.4	4,297.2		539.1
			13,890.0	934.0			31,903.0	11,752.2		31,156.6	3,380.7		665.1	
			37,655.8	1,542.0			58,562.2	21,049.2		57,266.3	6,213.6		2,868.7	
			67,459.7	3,593.1			131,695.6	47,920.0		128,018.3	13,891.5		4,072.9	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U1002-2(38) Unit 1 U1002-2(38) Unit 1 U1002-2(38) Unit 1	14	

FOR INFORMATION ONLY
EXCEPT AS NOTED

REMARKS

STA.	STA.	GUTTER ONLY	GUTTER ONLY	SIDEWALK	GUTTER	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
Main Line	Right	138+85	149+97								30
	"	152+53	156+52	399						1112	30
	"	157+91	161+66	401						375	30
	"	163+43	167+44								
	Left	138+85	148+61							976	30
	"	150+62	154+30	368						273	30
	"	156+18	158+91								
	"	160+21	164+51	430						209	30
	"	166+91	169+00								
Main Line Totals			1598							2945	120
Ramps	Speer Intr.										
NW-1	Right	0+00	3+00	300						571	
	"	3+00	8+71								
	"	8+71	11+65	294							
	Left	2+48	3+48			100				374	
	"	4+97	8+71			50				746	
	"	11+15	11+65								
NW-2	Right	2+21	9+67								
	Left	2+21	2+71	50							
	"	7+32	8+32	100							
SW-1	Right	2+50	3+00	50						567	
	"	3+00	8+67								
	"	8+67	11+84	317							
	Left	2+50	3+00			50				800	
	"	9+54	10+54	100							
SW-2	Right	0+00	8+00								
	"	8+00	8+12	12							
	Left	1+67	2+67			100				296	
	"	7+62	8+12	50						200	
SE-1	Right	0+00	3+00	300							
	"	3+00	5+96								
	"	7+96	11+00	304							
	Left	2+29	3+29			100				724	
	"	5+96	7+96			50					
	"	10+50	11+00	50							
SE-2	Right	2+14	9+38								
	Left	2+12	2+62	50							
	"	7+08	8+08	100							
NE-1	Right	1+43	2+32	89						202	
	"	4+91	10+11	520							
	Left	1+43	1+93			50					
	"	2+32	4+34			100					
	"	7+10	8+10								
NE-2	Right	0+00	6+76							676	
	Left	1+77	2+77	100							
	"	6+16	6+66	50							
Ramp Totals			2186			1200				5156	
Outer Highway Water to Platte	Right	10+02	14+10	408							
	Left	10+02	14+10	408							
Outer Highway 8th to 10th	Right	0+35	3+65	350							67
	"	4+30	7+58	328							60
	Left	0+35	7+70	735							187
Outer Highway Totals			2209								314
Project Totals			5993			1200				8101	434

To meet curb in place

"

To meet curb in place

"

"

"

PER DIST. NO.	ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9		GOLD.	11000-0235 UNIT 4	15	
11000-0235 UNIT 7 (002-235)					

FOR INFORMATION ONLY EXCEPT AS NOTED

LOCATION	STA.	STA.	LIN. FT.	LIN. FT.	CURB & GUTTER ONLY	LIN. FT.	CURB & GUTTER ONLY	LIN. FT.	OUTSIDE SIDEWALK	LIN. FT.	VALLEY RETURN	REMARKS
Mediar Main Line	Right & Left	229+00 234+25	229+75 235+00				150 150					Flares from end of bridge
	Right	216+65	221+70	531						505	16	
	"	223+10	228+41							48		
	"	230+00	230+48							47		
	"	232+28	232+75							512		
E. Inner Connection	Left	221+35	226+60	525						68	16	
	"	229+00	229+68							47		
	"	231+47	231+94									
Main Line Totals			1056			300				1227	32	
Market St. Infr. Ramps E. Outer Connection	Right	0+00	3+84									
	"	3+84	5+07	123						384	16	
	"	5+80	7+65	185								
	"	8+66	11+50	284								
	Left	2+30	11+50	920								
W. Outer Connection	Right	7+00	7+56	56								
	"	8+57	16+07	750							9	
	"	17+09	22+71							582	6	
E. Inner Connection	Right	5+50	9+00	350						320		
	"	9+00	12+20									
	Left	5+50	9+65	415								
W. Inner Connection	Right	0+00	4+82.33									
	"	4+99.99	5+25	575								
	"	5+25	11+00									
	Left	1+25	2+25	157								
	"	3+25	4+82.33	600								
Ramp Totals			5424	300						1773	31	
Market St. Median Total			1670								42	
W. Outer Highway	West			770						780	30	
	East											
W. Outer Highway Totals			770							780	30	
D.B.R.C. Connection	Right			253								
	Left			348								
D.B.R.C. Connection Totals			601									
Center Islands W. Colfax Conn. D.B.R.G. Conn.				545								
				120								
Center Islands Totals			665									
Colfax Connection W.	Right	0+00	2+23							223		
	Left											
Colfax Connection E. South Ramp	Right	5+07	7+50	243							18	
	Left	5+70	7+40	170							8	
North Ramp	Right	0+00	3+09	309								
	Left	0+40	2+20	180								
Colfax Connection Totals			902							223	26	
Project Totals			11,088	300		300				4003	161	

To Midwest Connection

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	Combined Project 11000-2650 Unit 4 11000-2670 Unit 7 1002-2356	16	

FOR INFORMATION ONLY
EXCEPT AS NOTED

LOCATION	STA.	STA.	GUTTER	ONLY	GUTTER	ONLY	SIDEWALK	GUTTER	ONLY	REMARKS
			LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
Main Line	Right	240+00	240+58					58	30	
	"	256+20	257+80	160				12		
	"	258+36	258+49.25					302		
	"	257+56.20	260+58					348		
	"	262+42	265+90						16	
	"	267+73	272+85	512						
	"	273+50	277+24			374			16	End of bridge
	"	278+52	283+45					300		
	"	284+50	287+50	493				106		
	"	288+96	290+02.15					766		100' Flare for off ramp
	"	289+88.87	297+55					1221		
	"	254+50	255+50					200	30	
	Left	240+19	252+40					331		
	"	253+20	254+50	130				331		
	"	255+40	257+39.99						15	
	"	257+54.16	260+85						25	End of bridge
	"	262+69	266+00						116	
	"	268+00	269+00	100					161	
"	269+00	271+57			257			150		
"	271+57	273+82	225					412.7		
"	275+20	279+83			463					
"	280+48	281+48	100							
"	281+48	282+70			122					
"	282+70	284+95	225							
"	286+53	286+78						25		
"	288+30	289+45.76						116		
"	289+88.87	291+50						161		
"	297+10	298+60						150		
Main Line Totals			650	1295	1216	100		4127	162	
Median	Right	260+69	Bk.							
	Left	260+74	Ah.							
	Right	262+53	Bk.			75				Flares from end of bridge
	Left	262+58	Ah.			75				"
	Right	287+39	Bk.			75				"
	Left	286+89	Bk.			75				"
	Right	288+85	Ah.			75				"
	Left	288+36	Ah.			75				"
	Median Totals					600				
	Zuni St.	Right	13+00	19+30						
	Left	13+00	13+50	630						52 *
	"	14+68	15+62	50						
	"	16+92	19+80	94						100 *
Island		14+30		55						
Island		16+00		76						
Outer Highway Totals			1,062	131					152	
Outer Highway Conn. (Zuni) *										
N.W.-	Right	0+00	2+84							
	Left	0+0	2+00	140						
SW-1	Right	0+00	3+25							
	Left	0+93	2+75	182						
Outer Highway (Zuni) Totals			609	322						
W Mulberry Pl. Connection										
N.E.-1	Right	-0+60	1+76							
	Left	0+08	0+90	82						15
SE-1	Right	0+00	3+18							
	Left	0+85	1+50	65						
Mulberry Conn. Totals			654	147						15
Ramps: 6th Ave Infr										
N.W.-1	Right	2+30	5+00							
	"	5+00	6+98	270						198
	"	9+63	12+34	271						
	Left	4+10	5+10							
	"	6+48	10+13	100						365
	"	10+90	11+90	100						
NW-2	Right	0+00	4+30							
	"	4+30	5+78	148						430
	Left	0+84	1+84							
	"	4+22	5+22	100						
				100						
										Cont'd on next sheet

NOTE: THIS SECTION OF CURB & GUTTER TO BE BUILT THIS CONTRACT.

* TYPE I CURB & GUTTER

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	11002-2338	17	

FOR INFORMATION ONLY (Except as Noted)

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	Combined Project 11000-2(33)A-4 11002-2(17)A-7 1002-2(138)	18	

FOR INFORMATION ONLY
EXCEPT AS NOTED

REMARKS	STA.	STA.	GUTTER ONLY	GUTTER ONLY	SIDEWALK ONLY	GUTTER ONLY	GUTTER ONLY	SIDEWALK ONLY	GUTTER ONLY	GUTTER ONLY	REMARKS
			LINE FT.	LINE FT.	LINE FT.	LINE FT.	LINE FT.	LINE FT.	LINE FT.	LINE FT.	
Com'd from sheet no.											
Ramps S.W. 1	1+70 9+54	5+00 15+54	330						600		
	2+50 4+50 13+60	3+50 10+04 14+60	100 100								
S.W. 2	0+00 3+00	3+00 12+50	300						950		
	1+16 10+57	2+16 11+57	100 100								
S.E. 1	2+30 9+41	9+41 10+50	109						711		End of bridge
	3+80 9+65	4+80 10+65	100 100								End of bridge
S.E. 2	0+00 5+00	5+00 6+40	140						500		
	0+85 4+92	1+85 5+92	100 100								
N.E.	0+85 7+06	3+95 13+82	310						676		End of bridge
	1+25 3+55 10+90	2+25 7+56 11+90	100 100						401		
N.E. 2	0+00 2+20	2+20 9+93	220						773		
	1+30 8+25	2+30 9+25	100 100								
Ramp Totals			2,652						5,604		
Main Line 6th Ave.	57+57 63+93 66+57	60+62 65+62 68+64	305						169	30	End of bridge
	57+24 59+91 63+63 64+60	58+96 61+30 63+83 68+03	172						139 20	30 30	
Main Line Totals			1,027						328	105	
Medians	56+80 61+45 63+80 68+40	Ah-2 Bk- Ah- Bk-		150 150 150 150							
Medians Totals				600							
Project Totals			3,495	1,216					10,359	434	

STORM SEWERS

PROJECT: 11-002-2(23) Unit 4

INLET OR MANHOLE				STORM SEWER PIPE										REMARKS
NO.	LOCATION	TYPE	H	ELEVATION		IN		OUT		LINE	% GRADE			
				RIM	INVERT	DIA.	FLELEV.	AVE DEPTH	FROM			TO		
★ 86	9+142+90 R6L		3.00	81.76	81.76	15	81.76	50		86	8F	5.72	Use Grate No.5	
8F	142+90 €	1A	3.00	81.90	78.90	15	78.90	50		86	8F	0.28		
★ 8E	142+90 L6L		3.00	82.76	78.76	15	78.76	4		8F	8E	1.50		
8D	142+90 L.C.L. 9' Lt	MH 1A	6.96	82.86	75.90	15	78.70			8E	8D		To Connect with 24" in place	
★ 86	142+90 R6L		3.00	85.96	80.00	8	80.00	20	24	8D	8H			
8B	145+90 €	1A	3.70	83.20	79.50	15	79.50	50		8C	8B	1.00	From 6" Underdrain Underdrain Grate No.5	
★ 8A	145+90 L6L		4.96	83.36	79.00	15	79.00	4		8C	8B	1.00		
8	145+90 L.C.L. 9' Lt	MH 1A	6.16	84.06	77.90	15	77.90			8B	8A	8 27.50	Grate No.5	
7	148+90 R.C.L.	I	3.00	87.16	84.16	15	84.16	300		8A	8			
6	148+90 €	1A	3.00	84.30	81.30	15	81.30	50		4	8	0.50	Grate No.5	
5	148+90 L.C.L.	4B	4.00	85.16	81.16	15	81.16	4		8	8D	0.50		
4	148+90 L.C.L. 9' Lt	MH 1A	5.86	85.26	79.40	15	81.10	300		7	6	5.72	MH. In Place	
15	So. Curb, Central & Umatilla	3A	3.00	86.60	18.60	15	18.60	24		6	5	1.50		
14	€ Umatilla on Existing 24" Storms.		6.60	22.00	15.40	15	15.65			5	4	0.50	MH. In Place	
13	2+35 N.W. 1 12' Rt.	MH 1A	4.00	51.88.80	51.84.50	18	55.55	12	27	4	8	0.50		
12B	5+75 N.W. 1 Lt.	I	3.00	52.04.03	01.03	15	01.03	290		15	14	12.30	MH. In Place	
12A	152+70 R.C. 95' Rt.	4B	3.00	51.89.12	86.12	15	86.12	54		15	14			
12	153+20 R.C. 22Rt.	1A	2.50	88.00	85.50	15	85.50			14	13	1.15	Grate No.5	
11A	2+25 N.W. 1	4B	4.25	88.32	84.07	15	84.07	84		13	12	1.15		
11	152+00 €	2A	3.50	87.50	84.00	27	84.32			12	12	1.15	Grate No.5	
10A	150+75 L.C.L.	4B	3.00	85.90	82.90	15	82.90	82		12	11A	1.43		
10	7+50 N.E. 1	4B	3.78	86.36	82.58	15	82.58	92		12	11A	1.43	Grate No.5A	
9	152+00 L.C. 35' Lt	2A	4.00	84.50	80.50	15	82.00	192		12	11A	1.43		
27	8+75 N.W. 1	4B	3.00	52.20.38	17.38	15	17.38	65		12	11A	1.43	Grate No. 5A	
26	3+75 N.W. 2 44' Lt.	1A	3.00	12.50	09.50	15	09.50	86		11	9	0.37		
25	4+50 N.W. 2	I	4.00	11.31	07.31	15	07.31	230		10A	10	0.39	Grate No. 5	
										10	9	0.63		

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	11-002-2(23) Unit 4	19	
		11-002-2(17) Unit 7		
		1002-2(38)		

★ NOTE: DROP INLETS DENOTED THUS TO BE DELETED THIS CONTRACT. (PIPE WILL BE LAID)

STORM SEWERS

PROJECT 11-002-2(23) Unit 4

INLET OR MANHOLE				STORM SEWER PIPE										REMARKS
NO.	LOCATION	TYPE	H	ELEVATION		IN		OUT			LINE		% GRADE	
				RIM	INVERT	DA.	FL/LEV	DIA.	FL/LEV	LENGTH	AVE DEPTH	FROM		
24	7+70 N.W. 2 30' Rt.	1A	2.50	5190.50	88.00	15	88.25	18	8800	36	25	24	0.81	Grate No. 5
23	7+75 N.W. 2	1	5.50	93.21	87.71	18	87.71	18	87.71	126	24	23	1.71	
22	155+24 E.	1A	3.75	89.30	85.55	18	85.55	18	85.55	154	23	22	2.11	Grate No. 5
21	1+85 N.E. 2	1	3.00	89.02	86.02	15	82.55	15	86.02	36	21	20	9.64	
20	1+90 N.E. 2 40' Rt.	1A	3.00	85.30	82.30	18	82.30	18	82.30	166	21	20	0.62	Grate No. 5
19	3+50 N.E. 2 50' Lt.	M/H 1A	10.70	90.48	79.78	36	79.78	36	79.78	410	20	19	0.36	
73B	2+25 N.E. 1	4B	3.00	5204.54	01.54	15	01.54	15	01.54	152	73B	73	10.87	Grate No. 5
73A	14+35 L.C.L. Spear 50' Lt.	1A	2.50	5195.00	92.50	15	92.50	15	92.50	168	73A	73	4.46	
73	16+00 L.C.L. Spear 60' L/M/H in place)			90.28	78.28	15	85.00	15	85.00		73A	73		Stub in Place at 73 Stub in Place at 73 Stub in Place at 73
						15	85.00	15	85.00		73B	73		
						15	80.00	15	80.00		73C	73		
						35	78.28	35	78.28		73D	73		
											19	73		
72A	4+25 N.E. 2	1	2.80	97.79	94.99	15	94.99	15	94.99	44	72A	72	0.77	Grate No. 5
72	4+25 N.E. 1 Lt.	1	3.00	97.65	94.65	15	94.65	15	94.65	50	72A	72	0.60	
71	4+25 N.E. 1 50' Rt. (M.H. in place)					15	94.35				72	71		Grate No. 5
65	10+35 S.W. 1	4B	3.00	5202.11	5202.11	15	02.11	15	02.11	224	65	62	0.55	
62	12+50 S.W. 1 20' Rt. (M.H. in place)			0.780	5193.00	15	5200.88				65	62		Grate No. 5
59	4+25 S.W. 1	1	3.00	31.90	28.90	15	12.32	15	28.90	66	59	58	25.10	
58	5+25 S.W. 2 47' Lt.	1A	3.00	15.32	12.32	15	12.32	15	12.32	104	59	58	2.23	Grate No. 5
57	4+40 S.W. 2	1	4.00	14.00	10.00	15	10.00	15	10.00	270	57	55	4.65	
56	164+00 R.C.L. 33' Rt.	1A	2.50	5201.00	5198.50	15	98.50	15	98.50	106	56	55	1.00	Grate No. 5
55	1+25 S.W. 2	1	4.00	01.19	97.19	15	97.44	15	97.44	104	56	55		
54	162+18 E.V.H.	1A	4.00	5197.50	93.50	18	93.50	18	93.50	120	55	54	3.55	Grate No. 5
52	4+30 S.E. 1	1	3.00	98.88	95.88	15	95.88	15	95.88	210	54	53	1.87	
50	6+90 S.E. 2	1	3.00	97.65	94.65	15	94.65	15	94.65	80	52	53	2.08	Grate No. 5
53A	160+60 L.C.L.	4B	3.00	96.72	93.72	15	93.72	15	93.72	84	50	53	3.94	
53	161+35 L.C.L. 30' L	1A	4.00	95.00	91.00	15	91.50	15	91.50		53A	53		Grate No. 5
						18	91.25	18	91.25		53A	53		
29	8+90 S.E. 1	4B	3.00	05.92	02.92	15	02.92	15	02.92	60	53A	53	1.02	Stub in Place at 28 Stub in Place at 28
28	9+00 S.E. 1 70' Lt. (M.H. in place)			97.20	85.00	21	87.00	15	87.00		53A	53		
52C	3+40 Lt. So. Outer Highway	4B	3.00	5201.40	5198.40	15	98.40	15	98.40	26	52C	52D	1.92	Stub in Place at 28 Stub in Place at 28
52D	3+40 Rt. So. Outer Highway	4B	3.50	01.40	97.90	15	97.90	15	97.90	270	52C	52D	2.81	
52E	6+40 22' Rt. Lt. So. Outer Highway	M/H 1A	4.50	5194.80	90.30	15	90.30	15	90.30	116	52D	52E	0.81	Stub in Place at 28 Stub in Place at 28
52F	7+50 Lt. So. Outer Highway	4B	3.00	93.36	90.36	15	90.36	15	90.36	26	52E	52G	3.84	
52G	7+50 Rt. So. Outer Highway	4B	4.00	93.36	89.36	15	89.36	15	89.36	52	52F	52G	1.65	On Existing 36" Brick
52H	7+95 40' Rt. So. Outer Highway → E. of 10th St. →	M/H 1A	10.00	92.20	82.20	15	88.50	15	88.50		52G	52H		
73E	10+02 Lt. So. Outer Highway	4B	3.00	88.22	85.22	15	84.22	15	84.22	34	52H	73E	2.94	On Existing 36" Brick
73D	10+02 Rt. So. Outer Highway	4B	4.00	88.22	84.22	15	84.22	15	84.22	120	73E	73D	3.50	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	11-002-2(23) Unit 4	20	2
		11-002-2(23) Unit 4		
		1002-2(38)		

STORM SEWERS

PROJECT 11-002-2177 Unit 7

INLET OR MANHOLE				STORM SEWER PIPE						REMARKS	
NO	LOCATION	TYPE	H	ELEVATION		IN	OUT	LINE	%		
				RIM	INVERT	DA FLEVEY DIA	FLEVEY LENGTH	AVE DEPTH	FROM TO	GRADE	
17	12+64 W. Inn. Conn., 10' R.	MH 1A	8.2	5170.74	62.64	8	63.5		See Plans	Ref. C.M.A. U. Drain Lines 4, 5, 9, 6.	
16A	5+50 W. Outer Conn., Lt. Edge	4-B	3.0	71.25	68.25	15	68.25	39	16A	16	4.17
16	5+22 W. Outer Conn., In Median	MH 1A	8.9	71.2	62.30	15	67.00		16A	16	
						24	62.30		17	16	
						24	62.30		20	16	
						24	62.30	41	16	16	0.49
15	5+22 W. Outer Conn., 8' R.	MH 1A	8.9	71.00	62.10	8	63.40		See Plans	Ref. C.M.A. U. Drain Lines 1, 8, 3	
						8	63.40		16	15	
						24	62.10	14	15	14	0.72
14	5+22 W. Outer Conn., 25' R.	Spec.	2.9	5182.08	53.00	24	62.00		15	14	
						3-8"	W.I.		14	13A	
13A	5+22 W. Outer Conn., 54' R.	Spec.	4.5	89.0	84.50	3-8"	86.75	640	13A	13	0.83
38	214+00 R.C. In Median	1A	3.0	5204.30	01.30	15	01.30	50	38	37	0.60
37	214+00 R.C.	1	3.5	04.50	01.00	15	01.00	54	38	37	35.93
						15	01.00	20	37	36	
39A	9+50 W. Outer Hwy.	4-B	3.0	5188.32	85.32	15	85.32	20	39A	39	1.00
42	4+63 W. Inner Conn.	1	3.0	90.70	87.70	15	87.44	55	42	41	0.47
41	14+00 W. Outer Conn., Lt Edge	4-B	3.5	90.94	87.44	15	87.44	280	42	41	0.89
40A	11+16 W. Outer Hwy.	1	3.0	89.01	86.01	15	86.01	26	40A	40	4.08
40	11+16 W. Out. Hwy., Lt. MH, In Place	1	3.0	89.01	83.20	15	84.95		41	40	
						15	84.95		40A	40	
43	11+20 W. Outer Conn.	4-B	6.13	89.43	83.3	36	In Place	60	44	43	0.50
45	218+54 L.C.L. In Median	1-A	3.0	91.8	88.8	15	88.5		44	43	
44	219+72 R.C.L. 10' R., In Place.	-	-	-	-	15	88.5		45	44	
46	220+30 R.C.L. In Median	1A	9.4	93.4	84.0	30	In Place		47	46	
						30	In Place		46	44	
48	8+16 E. Inn. Conn., 4' R., M.H. In Place	-	-	-	84.55	24	85.05		49	48	
						26	In Place		East	48	
49	7+12 E. Outer Conn. 56' Lt.	1A	4.0	89.45	85.45	15	86.20		48	47	
						15	86.20		49A	49	
						24	85.45		49B	49	
50	0+25 N. Conn. Colfax, E. Out. Conn.	4-B	3.0	91.00	88.00	15	88.00	196	50	49	0.20
51E	7+50 S. " " " "	4-B	3.0	91.00	88.00	15	88.00	52	51A	51	2.62
51C	6+80 S. " " " " 25' R.	1A	3.0	89.80	86.80	15	86.80	56	51B	51	2.62
						15	86.80		51C	51	0.29
51	0+65 N. Conn. Colfax E. " "	MH 1A	6.8	92.69	85.89	15	86.64		51A	51	
						15	86.64		51B	51	
						15	86.64		51C	51	
50	6+85 E. Outer Conn. 35' R.	1A	4.0	89.67	85.67	24	85.67	95	51	50	0.23
49A	7+60 E. Outer Conn.	4-B	3.0	92.40	89.40	15	89.40	74	50	49	0.23
48	6+50 E. Outer Conn. Lt. Edge	4-B	3.0	95.11	92.11	15	92.11	70	49A	49	4.33
57B	221+96 L.C.L.	4-B	3.0	96.75	93.75	15	93.75	50	49B	49	8.44
57A	222+12 L.C. In Median	1A	2.5	96.00	93.5	15	93.50	60	57B	57A	0.50
57	223+20 R.C. 10' R.	4-B	3.69	96.89	93.00	15	93.00	88	57A	57	0.83
58A	225+65 R.C. In Median	1A	3.0	5203.80	00.80	15	00.80	92	57	56	6.14
58	225+45 R.C.L.	4-B	3.5	04.14	00.64	15	00.64	148	58A	58	0.31
						15	00.64		58	56	8.81

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	11-002-2177 Unit 7	22	
Combined Project 11-002-2177 Unit 7 1002-2(38)				

DELETED THIS CONTRACT

STORM SEWERS

PROJECT 11-002-2117 Unit 7

INLET OR MANHOLE			STORM SEWER PIPE					REMARKS			
NO.	LOCATION	TYPE	H	RIM	ELEVATION INVERT	DIA. F.L.ELEV. (DIA.)	IN		FL ELEV. (DIA.)	LENGTH (AVE DEPTH)	LINE FROM TO
56	224+00 RC, 40' RI	MH	440	5192.00	5181.60	15	8760	15		57 56	
55	224+00 RC, 136' RI M.H. in place				8730	15	8760	15	96	58 56 56 55	0.31
54	224+00 RC, 196' RI	IA	250	8960	8710	12	In Place	12	In Place	55 54 54 53	
53B	16+05 W. Outer Hwy. (W. Leg.)	I	300	9000	8700	15	8700	15	40		
53A	(10+50) S.Conn. Colfax, W. Outer Conn.	I	300	9000	8670	15	8670	15	35		
53	(10+50) S.Conn. Colfax W. Outer Conn. (RR)	MH	380	9010	8630	15	8630	12	In Place	53A-53	
52	3+50 E. Outer Conn.	I	300	06.47	03.47	15	03.47	15	40	52 Out	2868
59	17+75 W. "	I	300	5198.22	95.22	15	95.22	15	34	59 Out	947
60	20+50 W. Outer Conn.	I	300	5209.62	06.62	15	06.62	15	44	60 Out	3323
16	234+20 L.C.L. in Median End Market Interchange	I	300	5218.75	15.75	15	15.75	15	64	IC IB	1.89
18	234+91 R.C.L.	I	300	1754	1454	15	1454	15	206	IC IB IB IA	2.62
1A	237+00 R.C.L.	I	300	12.15	09.15	15	09.15	15	74	IB IA IA I	2.64
1	237+50 R.C.L. in Median	IA	300	10.20	07.20	15	07.20	15	246	IA I I 2	2.80
2A	240+00 R.C.L.	I	300	04.05	01.05	15	01.05	15	50	2A 2	1.50
2	240+00 R.C.L. in Median	IA	300	03.30	00.30	15	00.30	15	450	2A 2 2 4	1.03
3	244+00 L.C.L.	I	275	5198.64	95.89	15	95.89	15	50	3 4	0.48
4	244+00 L.C.L. in Median	IA	325	98.65	95.40	15	95.65	15	90	2 4 3 4 4 5	0.44
5	244+90 L.C. in Median	MH	770	9803	90.33	18	95.00	42	90.33	4 5	0.42
6A	247+32 L.C.L.	I	300	97.03	94.03	15	94.03	15	90	5 5A	0.40
6	247+32 L.C.L. in Median	IA	300	96.80	93.80	15	93.80	15	290	6A 6 6 7	0.26
7A	249+93.7 L.C.L.	I	275	95.90	93.15	15	93.15	15	58	6A 6 7A 7	0.17
7	251+00 RC. in Median	IA	300	95.80	92.80	15	93.05	18	90	6 7 7 7B	0.50
8B	3+08 W. Mulberry S.E. Ramp	4B	2.60	96.00	93.40	15	93.40	15	36	8 8A	0.56
8A	3+02 W. " NE Ramp	4B	2.80	96.00	93.20	15	93.20	15	310	8B 8A 8A 8	0.19
8	253+00 L.C. in Median	IA	670	99.30	92.60	15	92.60	18	274	8A 8 9 8 8 8C	0.22
9A	257+40 BK. L.C.L.	I	300	5213.12	10.12	15	10.12	15	50	9A 9	1.44
9B	258+00 BK. R.C.L.	I	300	1458	11.58	15	11.58	15	84	9B 9	2.60
9	257+40 BK. L.C.L. in Median	IA	300	12.40	09.40	15	09.40	15	440	9A 9 9B 9 9 9	2.96

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	Combined Project 11-002-2117 Unit 7 11-002-2117 Unit 7 1002-2136	23	

STORM SEWERS

PROJECT 11002-2(18) UNIT 1

INLET OR MANHOLE				STORM SEWER PIPE						REMARKS	
NO.	LOCATION	TYPE	H	ELEVATION		IN	OUT		LINE		% GRADE
				RIM	INVERT		DIA.	F.L.E.V.			
4A	0+00 So. River Dr. 40' Lt. E	IA	2.5	92.50	90.50	15	90.50	100	4A 4B	0.34	Headwall & Auto. Gate 15"
4B	0+00 So. River Dr. 60' Rt. E	IA	2.34	92.50	90.16	15	90.16	160	4A 4B 4B Riv	0.35	
5A	3+65 So. River Dr. 40' Lt. E	IA	4.5	94.45	89.95	42	89.95	100	5 5A 5B	0.40	Headwall & Auto. Gate 42"
5B	3+65 So. River Dr. 60' Rt. E	IA	4.5	94.05	89.55	42	89.55	160	5A 5B 5B Riv	0.40	
7B	9+00 So. River Dr. 40' Lt. E	IA	3.0	95.34	92.34	18	92.34	100	7 7B 7C	0.51	Headwall & Auto. Gate 18"
7C	9+00 So. River Dr. 60' Rt. E	IA	2.7	94.53	91.83	18	91.83	85	7B 7C 7C Riv	0.51	
8E	13+00 So. River Dr. Lt. Edge	4B	3.0	02.71	99.71	15	99.71	50	8E 8D	0.40	Headwall & Auto. Gate 18"
8D	13+00 So. River Dr. Rt. Edge	4B	3.2	02.71	99.51	15	99.51	40	8E 8D 8D 8C	0.40	
8C	13+00 So. River Dr. 60' Rt. E	M.H. IA	6.0	98.00	92.00	18	92.00	20	8D 8C 8 8C	0.50	Headwall & Auto. Gate 18"
9C	17+00 So. River Dr. Lt. Edge	4B	3.0	05.81	02.81	15	02.81	50	8C Riv 9C 9D	0.62	
9D	17+00 So. River Dr. Rt. Edge	4B	6.0	05.81	99.81	15	99.81	100	9C 9D 9D Riv	7.31	Flared End 15"
9E	3+00 10' Rt. No. Line 8th Ave.	4B	2.9	02.10	99.20	15	99.20	170	9D Riv 9E 9F	0.47	
9F	1+40 10' Rt. No. Lt. 8th Ave.	4B	3.6	02.00	98.40	15	98.40	100	9E 9F 9F Riv	5.40	Flared End 15"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	Combined-Project 11-000-02(18) Unit 1 11-000-02(18) Unit 1	24	
1 002-2(18)				

STORM SEWERS

PROJECT: 11-002-639-1111

INLET OR MANHOLE			STORM SEWER PIPE										REMARKS			
NO.	LOCATION	TYPE H	ELEVATION		IN		OUT			LINE		% GRADE				
			RIM	INVERT	DIA.	F.L.E.V.	DIA.	F.L.E.V.	LENGTH	AVE DEPTH	FROM			TO		
	6th Ave. Valley Highway Intr.															
10A	13+00 N.E.1	1 3.00	5214.20	11.20	15	11.20	60	2	10A	10	0.42	Grate No.5				
10D	266+82 L.C.L. In Median	1A 2.75	13.70	10.95	15	10.95	72	2	10A	10	0.44					
10B	3+00 NW.1	4B 4.20	14.83	10.63	15	10.63	48	4	10	10B						
10C	3+00 NW.1 45' Rt.	1A 4.00	5199.00	95.00	15	95.25	200	7	10B	10C	32.04	Grate No.5				
11	268+86 L.C. (10 So. S.L. 7th Ave.)			72	9.155	72	8941	10	10C	Riv	0.32	Hdw 18" Auto Drain Gate 18" Headwall & Auto Gate 72"				
12D	3+50 N.E.1	4B 3.00	27.20	24.20	15	24.20	72	5	12D	Out	30.0	Flared End 15"				
12C	7+75 N.E.1 Lt	1 3.00	11.16	08.16	15	08.16	140	3	12C	12B	2.59					
12A	10+42 N.E.1	MH 3.00	08.54	05.54	15	05.54	120	3	12A	12B	0.81					
12B	9+25 N.E.1 10' Rt	1A 5.00	09.57	04.57	15	04.57	40	5	12C	12B						
12	9+25 N.E.1 50' Rt.	1A 3.00	5200.00	5197.00	15	97.00	12	3	12A	12B	18.90	Grate No.5				
13B	270+60 L.C.L.55' Lt	1A 2.50	01.00	98.50	15	97.00	12	3	12	11	7.50	Grate No.5				
13A	270+92 L.C.L.	4C 8.09	06.15	98.06	15	98.06	60	4	13B	13A	0.73	Grate No.5				
13	271+00 L.C.L. In Median	1A 7.20	04.90	97.70	15	97.70	48	2	13A	13	0.75	Grate No.5				
14	270+15 R.C.L. 90' Rt	1A 4.00	00.50	96.50	18	97.70	164	4	13	14	0.73	Grate No.5				
14B	6+20 SW.1	1 3.00	09.02	06.02	18	96.50	110	4	13	14	0.68	Grate No.5				
14A	6+50 SW.1 45' Rt	1A 4.50	5200.00	95.50	18	95.75	52	4	14B	14A	19.75	Grate No.5				
14C	9+25 NW.1 Lt	1 3.00	07.45	04.45	18	95.75	132	8	14	14A						
15D	4+00 N.E.2	1 3.00	08.00	05.00	15	04.45	44	8	14A	14A	1.89	Hdw 18" Auto Drain Gate 18"				
15B	1+70 N.E.2	4B 2.80	5198.89	96.09	18	96.09	32	5	14C	Ditch	9.43	Flared End 15"				
15E	273+00 L.C. 40' Lt	1A 3.00	5202.00	99.00	15	96.23	140	5	15D	Out	6.25	Flared End 15"				
15A	273+70 L.C.L. 9' Lt	4B 5.00	00.98	95.98	18	95.98	40	2	18	Out	0.50	Flared End 18" Grate No.5				
15	274+20 L.C.L. In Median	1A 4.25	9.70	95.45	18	95.70	108	4	15C	15B	4.78	Grate No.5				
12E	76+00 E 6th Ave. 10' ± Rt	MH 1A 1.50	5215.50	Existing	12	In Place	130	7	15C	15B	0.22	Grate No.5				
12H	75+00 E 6th Ave. 70' Lt	MH 1A 7.2	5208.00	00.77	15	00.77	360	7	15E	15A	3.29	Grate No.5				
12J	71+50 E 6th Ave. 118' Lt	MH 1A 7.2	07.00	99.83	15	99.83	160	7	15E	15A						
12F	68+50 E 6th Ave 160' Lt	MH 1A 6.0	05.0	99.05	15	99.05	450	5	15B	15A	0.33	Grate No.5				
12E	6+10 N.E.1 6th Ave Inter. 80' Rt	MH 1A 5.1	03.0	97.88	15	97.88	340	5	15A	15	0.51	140" In Place				

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	11002-212311111-4	25	
Combined Project 11002-212311111-4 11002-212311111-7 1002-2138				

STORM SEWERS

PROJECT: 11-002-2(38)-URHH

INLET OR MANHOLE			STORM SEWER PIPE										REMARKS	
NO.	LOCATION	TYPE	H	ELEVATION		IN		OUT		LINE		% GRADE		
				RIM	INVERT	DIA.	F.LEV.	DIA.	F.LEV.	LENGTH	AVE DEPTH			FROM
16A	5+25 NW 2	4B	3.0	03.05	00.05	15	00.05	15	00.05	150		16A 16	3.03	Grate No. 5
16	274+30 R.C.L., 50' Rt	1A	6.1	01.00	94.90	24	94.90	24	94.90	108		16A 16	0.64	
16C	0+25 NW 2	MH	3.0	15.24	12.24	15	12.24	15	12.24	56		16C 16B	2364	Grate No. 5
16B	0+50 NW 2 44' Rt	1A	9.0	03.21	94.21	24	94.21	24	94.21	288		16C 16B	0.62	
17D	57+65 So. Line 6th. Ave, 9' Rt.	4B	3.0	07.54	04.54	15	04.54	15	04.54	48		16B 17E	1.75	Grate No. 5
17C	57+65 E. 6th, in Median	1A	3.0	06.70	03.70	15	03.70	15	03.70	48		17D 17C	1.17	
17B	57+43 N.L. 6th. Ave.	4B	4.0	07.14	03.14	15	03.14	15	03.14	72		17C 17B	0.89	Grate No. 5
17A	12+25 N.W.I.	4B	3.0	05.89	02.89	15	02.89	15	02.89	48		17B 17E	0.81	
17F	1+85 S.W.I.	4B	3.0	05.84	02.84	15	02.84	15	02.84	48		17F 17E	0.71	
17E	56+80 E. 6th. in Median	MH	1432	06.50	92.18	15	02.50	15	27.24	100		17A 17E	0.64	1-Auto. Drain Gate-24"
19	63+95 N. Line 6th. Ave, 10' L.	I	3.0	30.24	27.24	15	27.24	15	27.24	84		17E Abut	0.66	
21F	66+65 S.L. 6th. 9' R.	4B	3.0	35.34	32.34	15	32.34	15	32.34	52		19 21C	0.94	Grate No. 5
21E	66+65 E. 6th, Median	1A	3.0	34.60	31.60	15	31.65	18	31.60	190		21F 21E	2.05	
21D	64+75 E. 6th, Median	1A	3.0	30.70	27.70	18	27.70	18	27.70	80		21E 21D	1.71	Grate No. 5
21C	64+35	I	4.5	30.83	26.33	15	26.38	18	26.33	84		21D 21C	32.24	
20E	6+48 S.E. 1	I	3.0	22.72	19.72	15	19.72	15	19.72	84		21C 21B	21.99	Grate No. 5
20A	6+48 S.E. 1 80' L.	1A	2.5	03.50	01.00	15	01.25	18	01.00	320		20E 20A	0.31	
20	279+12 L.C., 140' Lt.	1A	2.5	02.50	00.00	18	00.00	18	00.00	170		20A 20	0.44	Grate No. 5
21B	277+70 L.C. 44' Lt	MH	62	005.0	98.75	18	99.25	18	99.25	40		20 21B	0.50	
21A	277+50 L.C. 10' Lt	4C	811	06.66	98.55	24	98.55	24	98.55	60		21C 21B	0.50	Grate No. 5
2	277+30 L.C. in Median 49' Rt	1A	6.75	05.00	98.25	18	98.75	24	98.25	88		21B 21A	9.56	
21G	0+75 S.W. 2	4B	3.0	08.44	05.44	15	05.44	15	05.44	72		21A 21	0.50	Grate No. 5
21H	277+25 R.C. 32' R.	1A	6.19	04.00	97.81	15	98.56	24	97.81	250		21 21H	19.05	
22C	10+50 S.W. 2	I	3.0	12.50	09.50	15	97.31	15	09.50	64		21G 21H	0.50	Grate No. 5
22D	10+15 S.W. 2 48' R	1A	444	01.00	96.56	24	96.56	24	96.56	130		21H 22D	0.76	
22E	3+56 S.W. 1 50' L.	1A	6.0	01.91	95.91	24	95.91	24	95.91	50		22C 22D	0.50	Grate No. 5
22B	8+55 S.W. 2	I	3.0	06.04	03.04	15	03.04	15	03.04	76		22D 22E	0.72	
22A	4+75 S.W. 1 Lt	4B	4.0	06.49	02.49	15	02.49	15	02.49	130		22E 22	0.35	1-Hgw. 1, Fl. 932 1-24" Auto. Dr. Gate
22	3+50 S.W. 1	4B	9.41	05.07	95.66	15	01.50	24	95.66	150		22A 22	1.46	
23B	5+50 S.E. 2	4B	2.75	16.87	14.12	15	14.12	15	14.12	40		22E 22E	0.55	Grate No. 5
23A	280+60 L.C.	4B	35	17.40	13.90	15	13.90	15	13.90	48	2	22E 22	3.40	
26	3+75 S.E. 1	I	3.0	30.16	27.16	15	27.16	15	27.16	104		23B 23A	4.30	Grate No. 5
26A	284+50 L.C. in Median 49' Rt.	1A	3.7	30.30	26.35	15	26.80	18	26.55	400		23A 23	4.30	
23	280+50 L.C. in Median 49' Rt.	1A	3.25	16.20	12.95	15	13.20	18	12.95	330		26A 23	4.30	Grate No. 5
						18	12.95	18	12.95	18		23 21	4.30	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	11-002-2(38) Unit 4	26	
		1002-2(38) Unit 4		
		1002-2(38)		

★

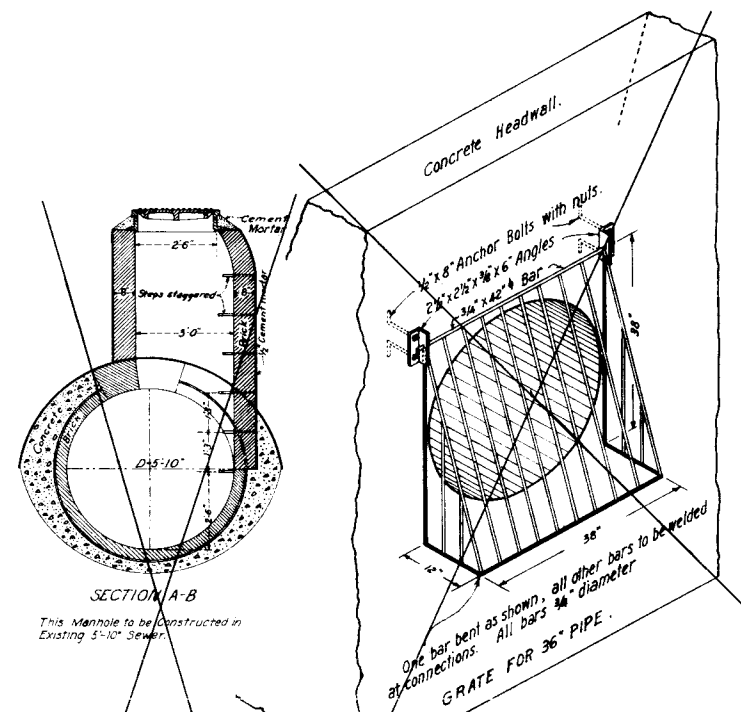
STORM SEWERS

~~PROJECT U-002-2(3) UNIT~~

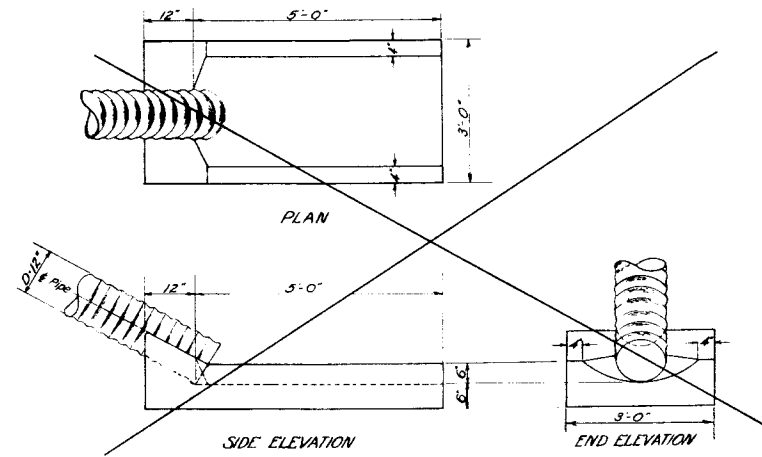
INLET OR MANHOLE				STORM SEWER PIPE								REMARKS			
NO.	LOCATION	TYPE	H	ELEVATION		IN DIA	FLELEV	DIA	FLELEV	LENGTH	AVE DEPTH		LINE		% GRADE
				RIM	INVERT								FROM	TO	
26C	11+75 SW 1	I	300	16.58	13.58	15	13.58	15	13.58	130		26C 26E	9.10	1-24" Flared end	
26F	10+70 SW 1, 60' Lt.	MH				24	0300	24	0300	104		26F 26E	1.92		
26E	10+60 SW 1, 45' Rt.	IA	600	07.00	01.00	15	0175	24	0100	172		26E 26E	3.78	1-Headwall F.L. 945 24" Auto. Dr. Gate	
27A	290+89 L.C.L.	I	300	37.37	34.37	15	34.37	15	34.37	220	3	27B 27A	2.80	Grate # 5	
27B	293+00 R.C.L. in Median 49' Lt.	IA	300	31.20	28.20	15	28.20	15	28.20	48	2	27A 27	0.42		
★ 27	293+00 R.C.L.	I	368	31.68	28.00	15	28.00	15	28.00	52	5	27 RIV	44.23	1-Flared End -15"	
28	296+00 R.C.L. in Median 49' Lt.	IA	300	21.20	18.20	15	18.20	15	18.20	48	2	28 28A	0.42		
★ 28A	296+00 R.C.L.	I	367	21.67	18.00	15	18.00	15	18.00	32	5	28A RIV	40.63	1-Flared End -15"	
29	298+60 L.C.L. 160' Lt. to 190' Rt.					54	In Place								
30C	300+00 L.C.L. 30' Lt.	IA	300	13.50	10.50	15	10.50	15	10.50	110	4	30C 30A	0.45	Grate # 5	
30A	299+20 R.C.L. in Median	IA	600	16.00	10.00	15	10.00	15	10.00	88	8	30A RIV	4.54	Grate # 5 1-Flared End -15"	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	Combined Project U-002-2(3) UNIT -14002-2(3) UNIT-	27	
1002-2(38)				

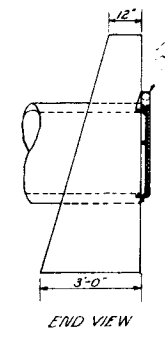
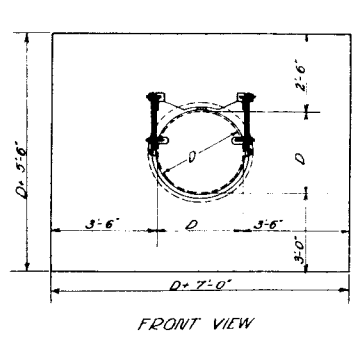
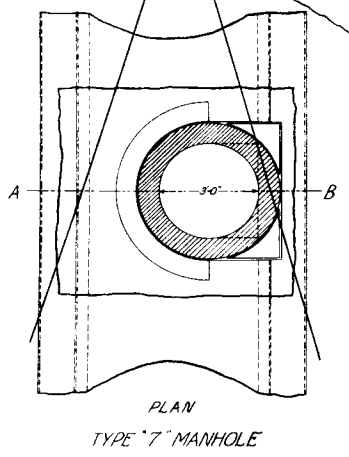
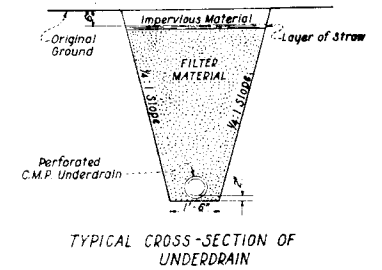
FED. ROAD DIV. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	Colorado Project 1-10-00-21381-4 1-10-00-21381-7 1-002-21381	30	



This Manhole to be constructed in Existing 5'-10" Sewer.



CONCRETE APPROX FOR CMP CULVERTS
0.31 Cu. Yds. Concrete



STORM SEWER OUTLET HEADWALL

Automatic Drainage gate (Calico Model 100 or suitable equivalent) to be anchored to headwall with anchor bolts as recommended by the manufacturer.

QUANTITIES FOR ONE HEADWALL

Pipe Diameter	Concrete Cu Yds.
15"	3.97
18"	4.20
24"	4.64
36"	5.54
42"	5.95
48"	7.00
60"	7.30
66"	7.80
72"	9.40

Automatic drainage gate to be installed only where called for on plans.

GENERAL NOTES
All work shall be done according to the standard specifications of the Colorado State Highway Department, adopted June 1, 1952.
All concrete shall be class "A".
All exposed surfaces shall be rubbed free of form marks.
All exposed corners shall be beveled to a 2" face.
For size and location of culverts see plan sheets for project.
Footings in rock shall be poured out to the rock and not formed.
Mechanical Tamping as provided under Item 14 of the specifications shall be applied over such areas as shown on the plans or as ordered by the Engineer.

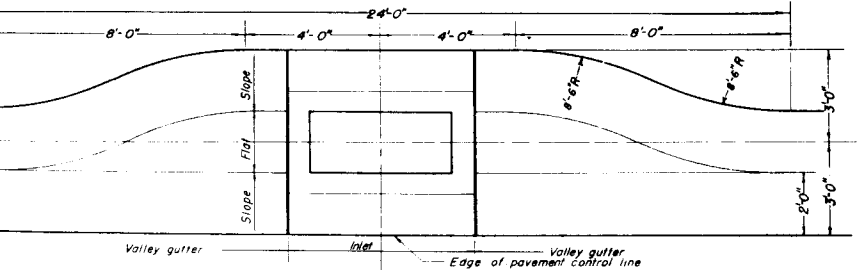
COLORADO
DEPARTMENT OF HIGHWAYS

— MANHOLE TYPE 7 —
— AND —
OUTLET STRUCTURES

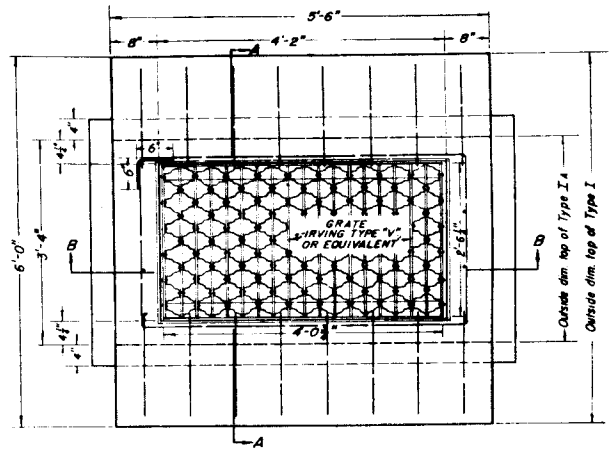
Designed by	Approved by
Made by	
Checked by	Date

Rev. 3-26-52 ELP-Dim. & Note

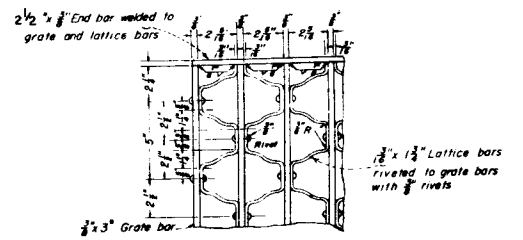
FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	COLO.	Combined Project 141000-25001-1001-4 141000-25001-1002-2(38)	31	



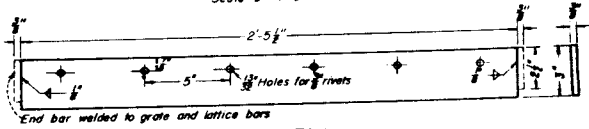
PLAN OF WIDENING OF VALLEY GUTTER AT INLETS
Scale 1/2" = 1'-0"



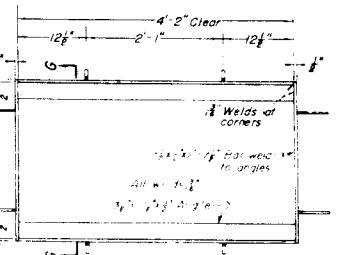
PLAN DROP INLET TYPE I & TYPE I-A
Scale 1" = 1'-0"



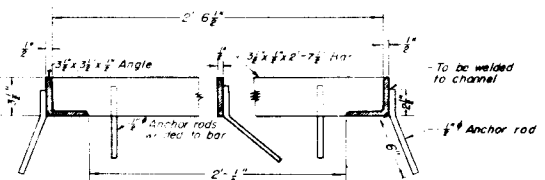
ENLARGED PLAN CORNER OF GRATE
Scale 5" = 1'-0"



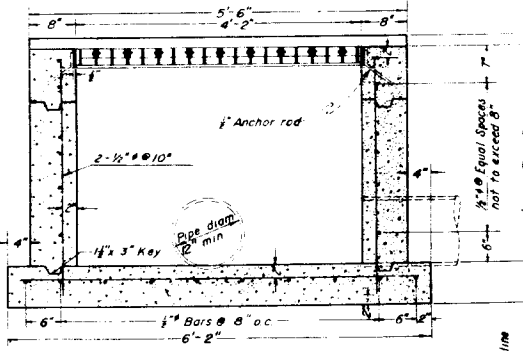
DETAIL GRATE BAR
Scale 5" = 1'-0"



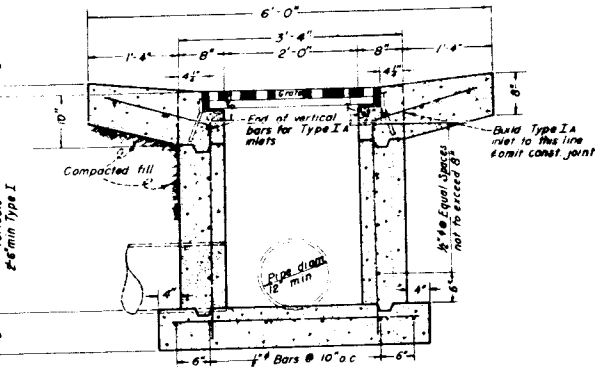
PLAN OF FRAME
Scale 1/2" = 1'-0"



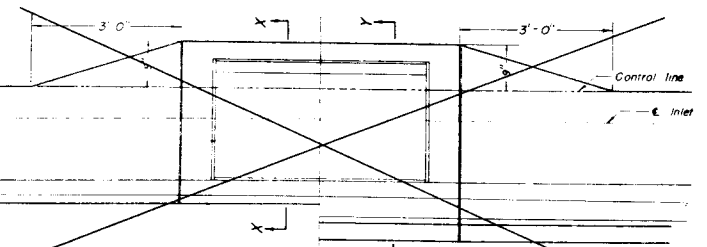
SECTION G-G
Scale 2" = 1'-0"



SECTION B-B
Scale 1" = 1'-0"

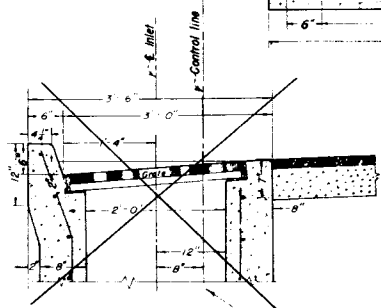


SECTION A-A
Scale 1" = 1'-0"



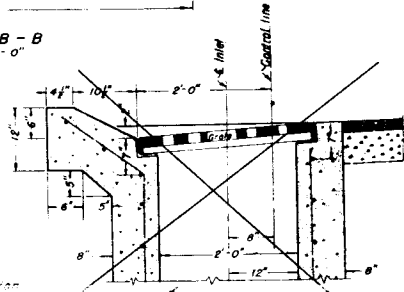
DROP INLETS IN CURB & GUTTER
Scale 3/4" = 1'-0"

NOTE: WHEN DEPTH OF INLET IS OVER 4" STEPS MUST BE PROVIDED.



TYPE I-B SECTION X-X
Scale 1" = 1'-0"

NOTE: Lower portion of Types I-B & I-C same as Type I



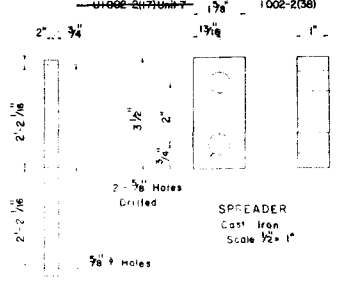
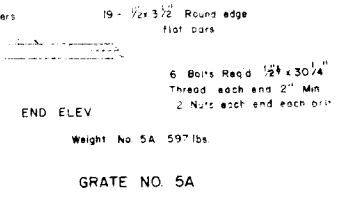
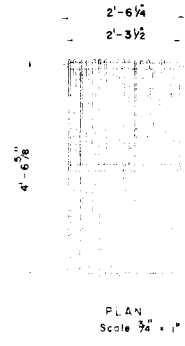
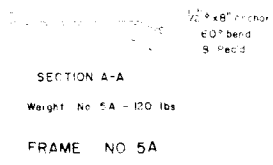
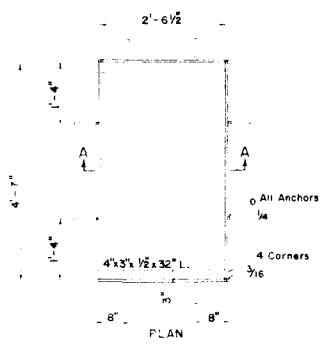
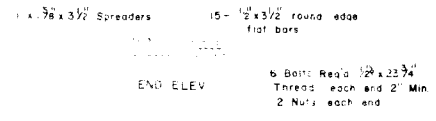
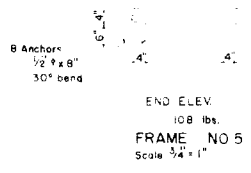
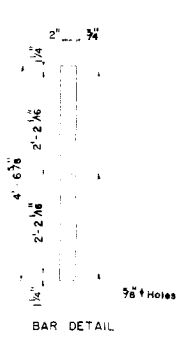
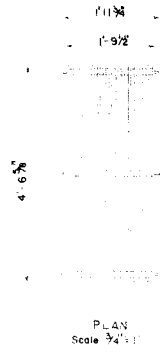
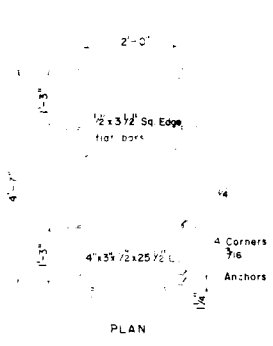
TYPE I-C SECTION Y-Y
Scale 1" = 1'-0"

COLORADO
DEPARTMENT OF HIGHWAYS

DROP INLET DETAILS
TYPE I & I-A

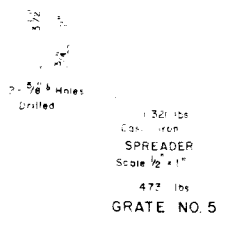
Designed by: _____
Made by: _____
Checked by: _____

Approved by: _____
Date: _____



NOTE
No 5A Frame & Grate may be used with inlet Type 2A.

NOTE:
No. 5 Frame & Grate may be used with inlet Type 1-A

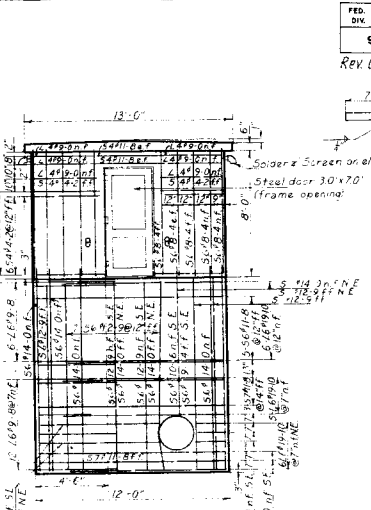
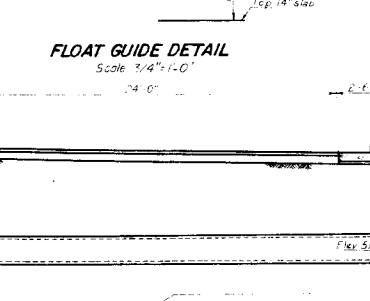
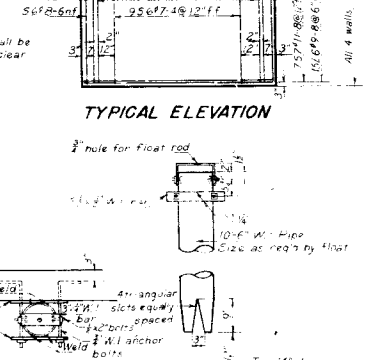
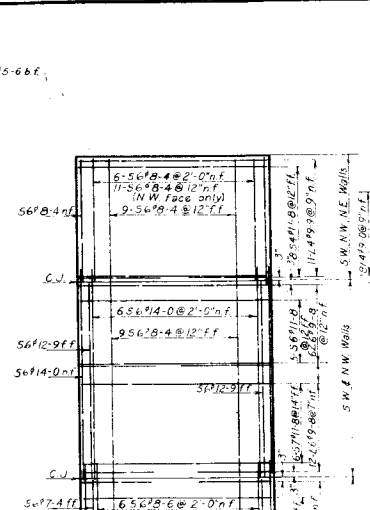
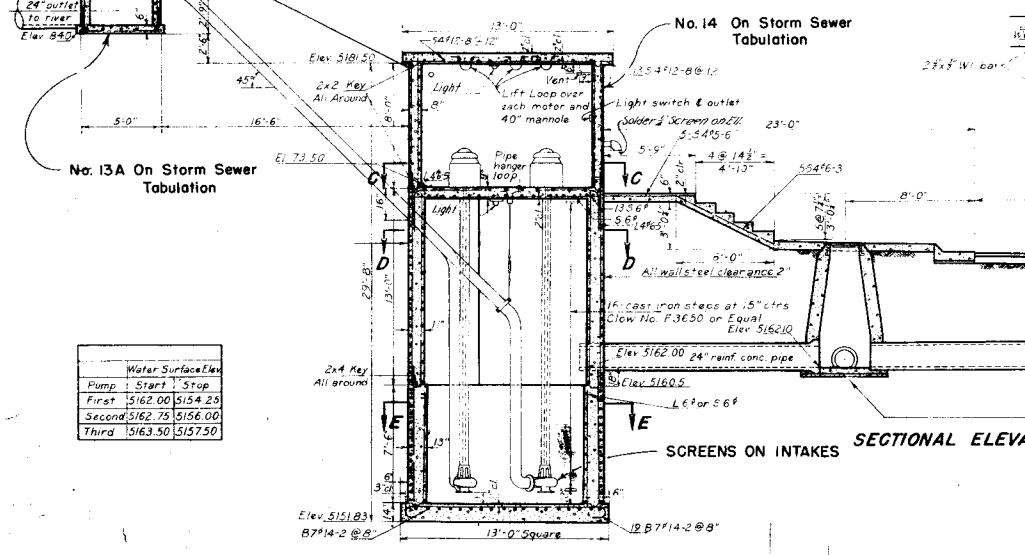
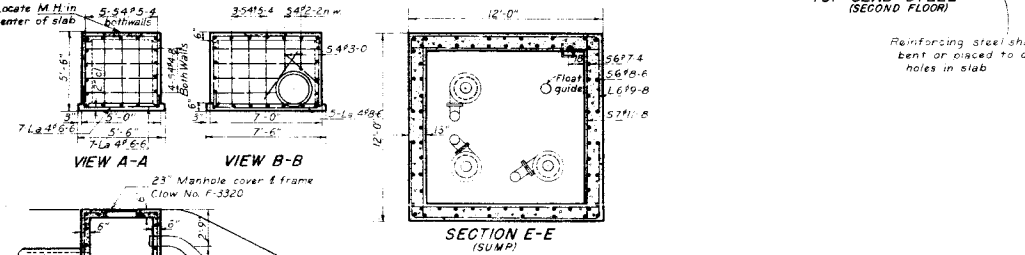
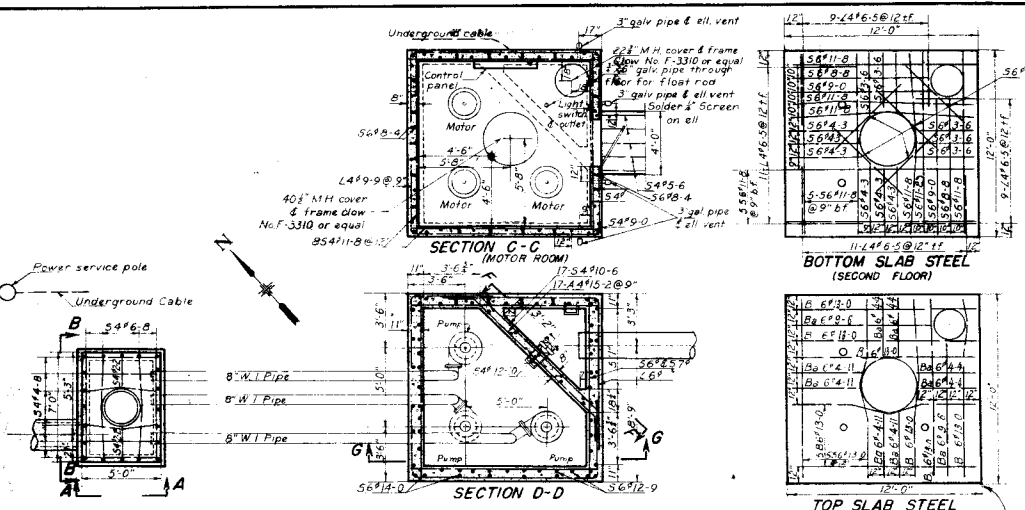


COLORADO
DEPARTMENT OF HIGHWAYS
NO. 5 AND NO 5A
GRATING & FRAME

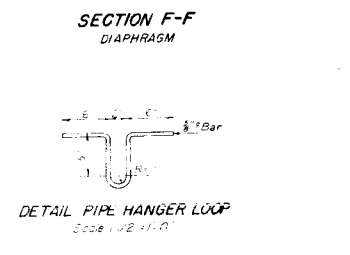
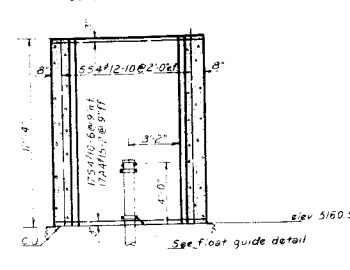
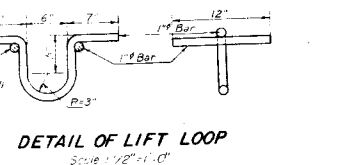
Designed By: _____ Approved by: _____
Made by: _____ Checked by: _____
Date: _____

FED. ROAD DIV. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1002-2(38)	35	

Rev. Oct. 23, 1956 - F.K.M. - Bar Details



- PUMPING EQUIPMENT**
- 3 UNITS - (EACH UNIT TO CONSIST OF THE FOLLOWING EQUIPMENT):
 - 1-6" VERTICAL CENTRIFUGAL
 - 1200 GPM - 35' TDH
 - 2000 GPM - 20' TDH
 - 18"-1" OF 5" I.D. COLUMN W/1 1/2" DRIVE SHAFT
 - 1-FLOOR PLATE FOR 1 1/2" RING BASE VHS. MOTOR
 - 1-1 QT. SOLENOID OILER W/4 FEEDS
 - 1-15 HP, 3-60-220G/440 VOLT, 1160 R.P.M. VERTICAL HOLLOW SHAFT MOTOR.
 - 1-DISCONNECT SWITCH
 - 1-MAGNETIC STARTER
 - * 1-PUSH BUTTON STATION
 - HEALTHY-RUFF CONTROL EQUIPMENT
 - * OR ACCEPTABLE EQUIVALENT



Water Surface Elev.	
Pump 1 Start / Stop	
First	5162.00 / 5154.25
Second	5162.75 / 5156.00
Third	5163.50 / 5157.50

Estimate of Quantities			
Item No.	Item	Unit	Total
140	Dry Rock Excavation	Cu Yd.	3
140	Dry Common	Cu Yd.	33
140	Wet Rock	Cu Yd.	14
140	Wet Common	Cu Yd.	216
6d	Mechanical Tampers	Hr.	27
46a	Class A Concrete	Cu Yd.	63
47	Reinforcing Steel	Lb.	9667
70	Waterproofing (Type I)	Sq Yd.	155
42	Pumps Plus Equipment	Day	1

STRUCTURE NO. F-16-DD, F-16-DE, F-16-DF, F-16-DG

COLORADO STATE HIGHWAY DEPT.
THE VALLEY HIGHWAY DENVER, COLORADO.

C.B.S. R.R. UNDERPASSES AT MARKET

PUMPING PLANT

CROCKER AND RYAN
CONSULTING ENGINEERS
DENVER, COLORADO

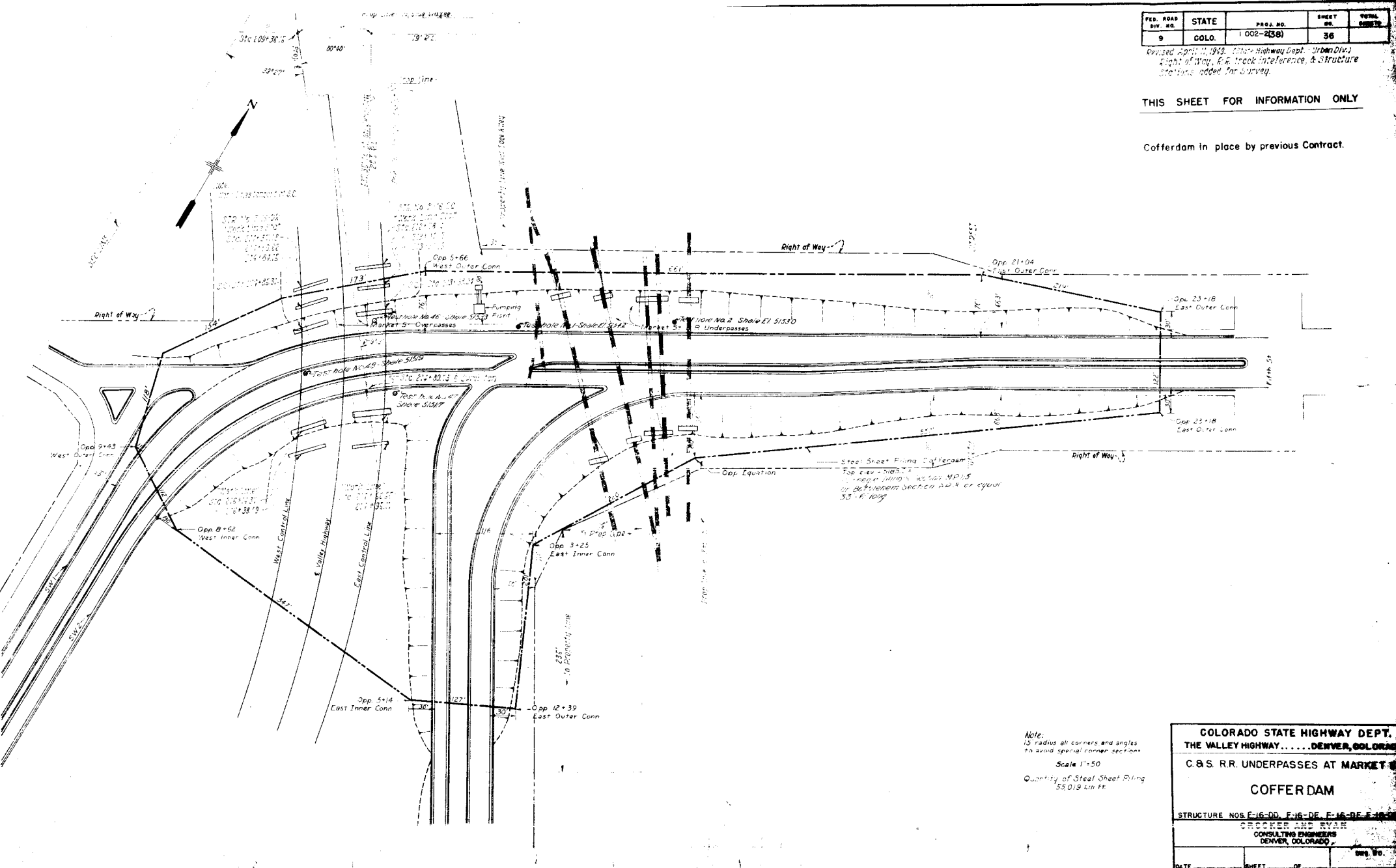
DATE: SHEET 19 OF 19 DWG. NO.

FED. ROAD DIV. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1002-238	36	

Revised April 11, 1949. (State Highway Dept. - Urban Div.)
Right of Way, E. & R. track interference, & Structure
Sections added for survey.

THIS SHEET FOR INFORMATION ONLY

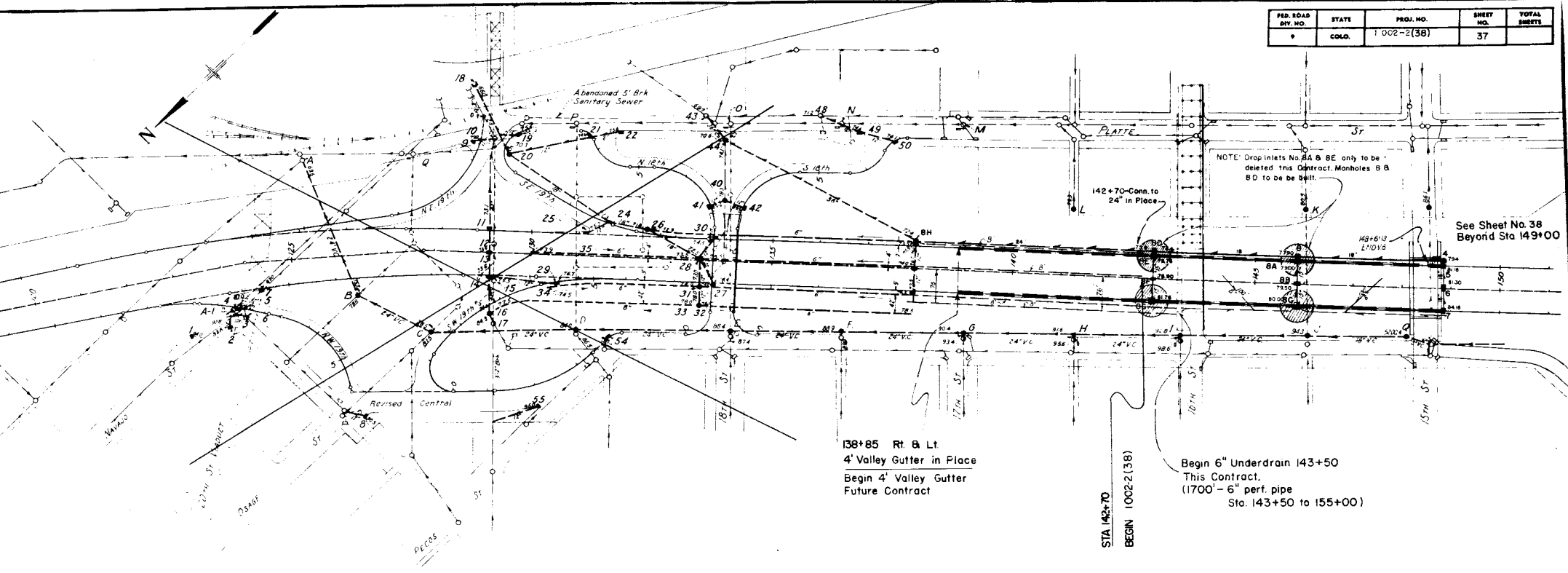
Cofferdam in place by previous Contract.



Note:
15' radius all corners and angles
to avoid special corner sections
Scale 1"=50'
Quantity of Steel Sheet Piling
55,019 Lin. Ft.

COLORADO STATE HIGHWAY DEPT.
THE VALLEY HIGHWAY DENVER, COLORADO
C. & S. R.R. UNDERPASSES AT MARKET ST.
COFFER DAM
 STRUCTURE NOS. F-16-DD, F-16-DE, F-16-DF, F-16-DG
 CRICKER AND BYER
 CONSULTING ENGINEERS
 DENVER, COLORADO
 DATE _____ SHEET _____ OF _____

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	COLORADO	1 002-2(38)	37	



138+85 Rt. & Lt.
4' Valley Gutter in Place
Begin 4' Valley Gutter
Future Contract

Begin 6" Underdrain I43+50
This Contract.
(1700' - 6" perf. pipe
Sta. I43+50 to I55+00)

STA I42+70
BEGIN 1002-2(38)

See Sheet No. 38
Beyond Sta I49+00

NOTE: Drop Inlets No. BA & BE only to be deleted this Contract. Manholes B & BD to be built.

**LEGEND
SANITARY SEWERS**

- Existing Sewers
- Existing Sewers to be abandoned
- Existing Line to be plugged
- Existing Manholes requiring new work
- New Sewers and Manholes

STORM SEWERS

- Existing Lines, Manholes and Inlets
- Existing Lines to be abandoned
- Line to be plugged and/or inlet to be abandoned
- New Lines, Manholes and Inlets

NOTE:

Denotes Drop Inlets to be deleted this Contract.

**LEGEND
CURB & GUTTERS**

- Curb & Gutter (Two Types)
- Valley Gutter
- Barrier Curb (Two Types)

COLORADO
DEPARTMENT OF HIGHWAYS

**DRAINAGE
PLAN**

Designed by: Made by: Checked by:	Approved by: Date:
---	-----------------------

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	COLO.	1002-2(38)	38	

LIMIT OF STORM SEWER CONSTRUCTION THIS PROJECT
 NOTE: 18" Pipe to 73 are stubbed at 74 for present connection.

See Sewer Tabulations, sheets 19 & 20.

LIMIT OF STORM SEWER CONSTRUCTION THIS PROJECT
 NOTE: Lines to 79, 79A & 73B are stubbed at 73 for present connections.

LEGEND CURBS & GUTTERS

- Curb & Gutter (Two Types)
- Valley Gutter
- Barrier Curb (Two Types)

NOTE:
 Drop inlets & Sewers crossed off this plan are in place by previous contract U1 002-2(23) Unit 3

LEGEND STORM SEWERS

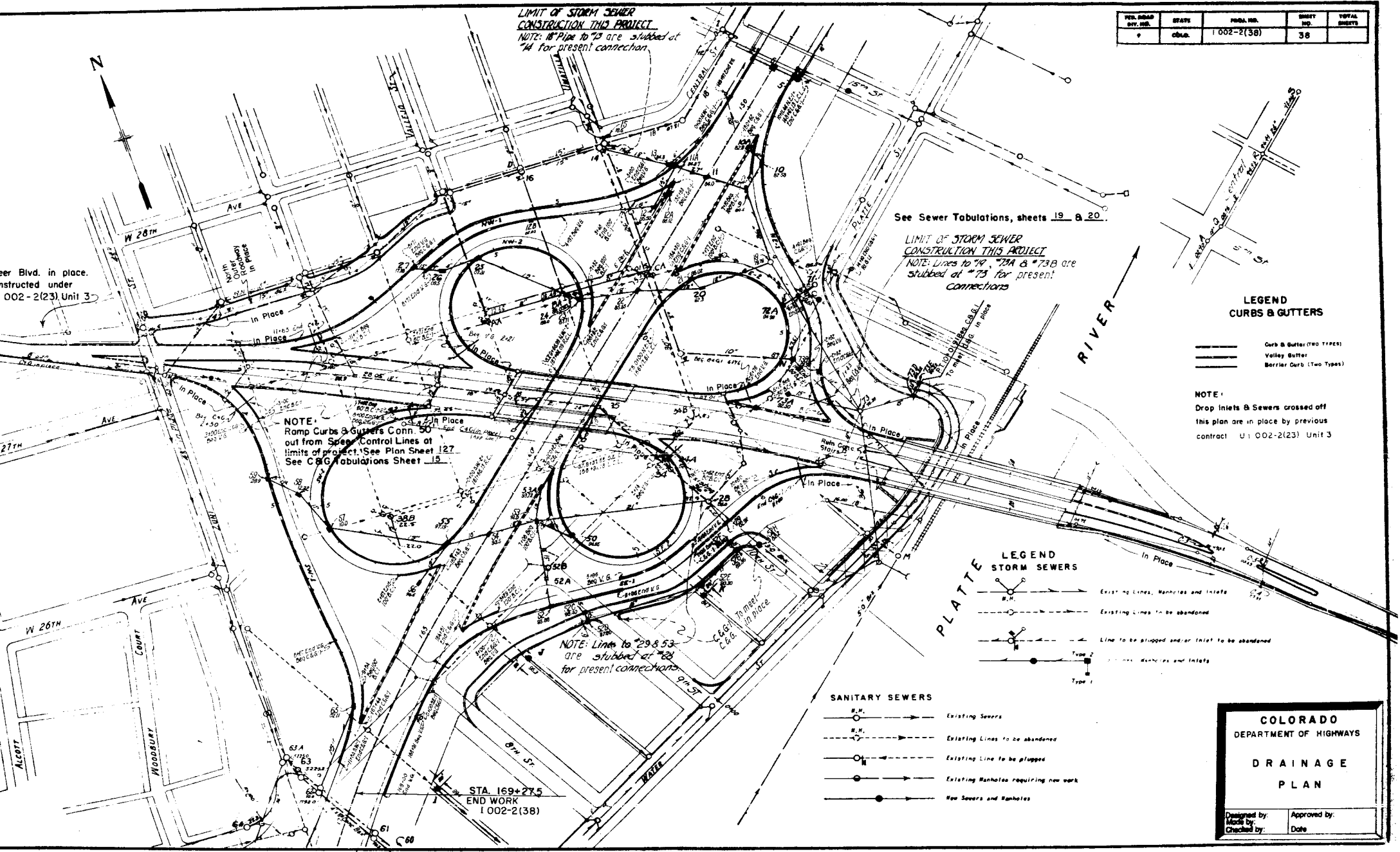
- Existing Lines, Manholes and Inlets
- Existing Lines to be abandoned
- Line to be plugged and/or Inlet to be abandoned
- Existing Manholes and Inlets

SANITARY SEWERS

- Existing Sewers
- Existing Lines to be abandoned
- Existing Line to be plugged
- Existing Manholes requiring new work
- New Sewers and Manholes

COLORADO DEPARTMENT OF HIGHWAYS
DRAINAGE PLAN

Designed by: _____
 Made by: _____
 Checked by: _____
 Approved by: _____
 Date: _____

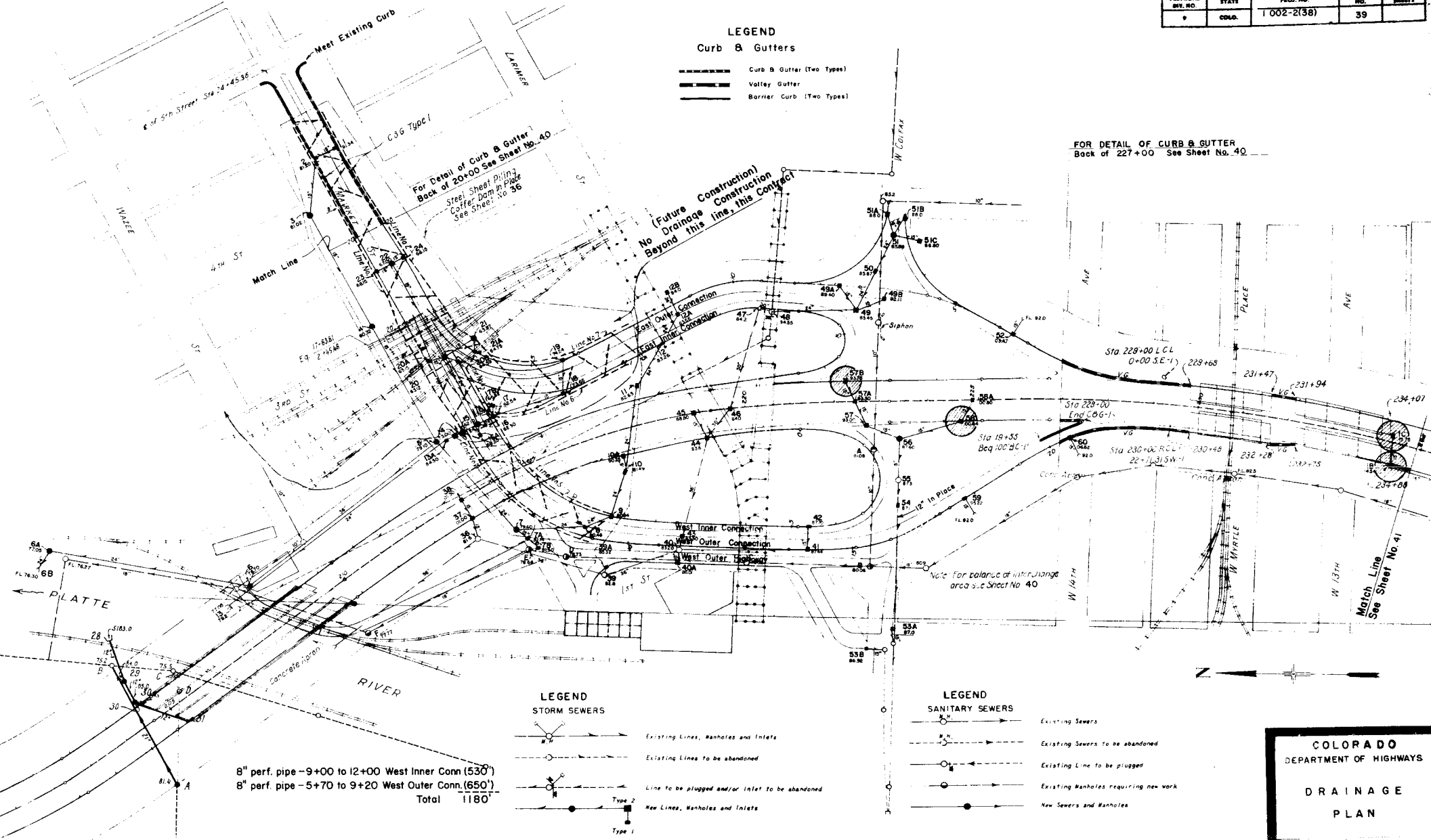


PER. ROAD SHT. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLD.	1 002-2(38)	39	

LEGEND
Curb & Gutters

- — — — — Curb & Gutter (Two Types)
- — — — — Valley Gutter
- — — — — Barrier Curb (Two Types)

FOR DETAIL OF CURB & GUTTER
Back of 227+00 See Sheet No. 40



LEGEND
STORM SEWERS

- Existing Lines, Manholes and Inlets
- Existing Lines to be abandoned
- Line to be plugged and/or Inlet to be abandoned
- New Lines, Manholes and Inlets

Type 2
Type 1

LEGEND
SANITARY SEWERS

- Existing Sewers
- Existing Sewers to be abandoned
- Existing Line to be plugged
- Existing Manholes requiring new work
- New Sewers and Manholes

8" perf. pipe -9+00 to 12+00 West Inner Conn (530')
8" perf. pipe -5+70 to 9+20 West Outer Conn. (650')
Total 1180'

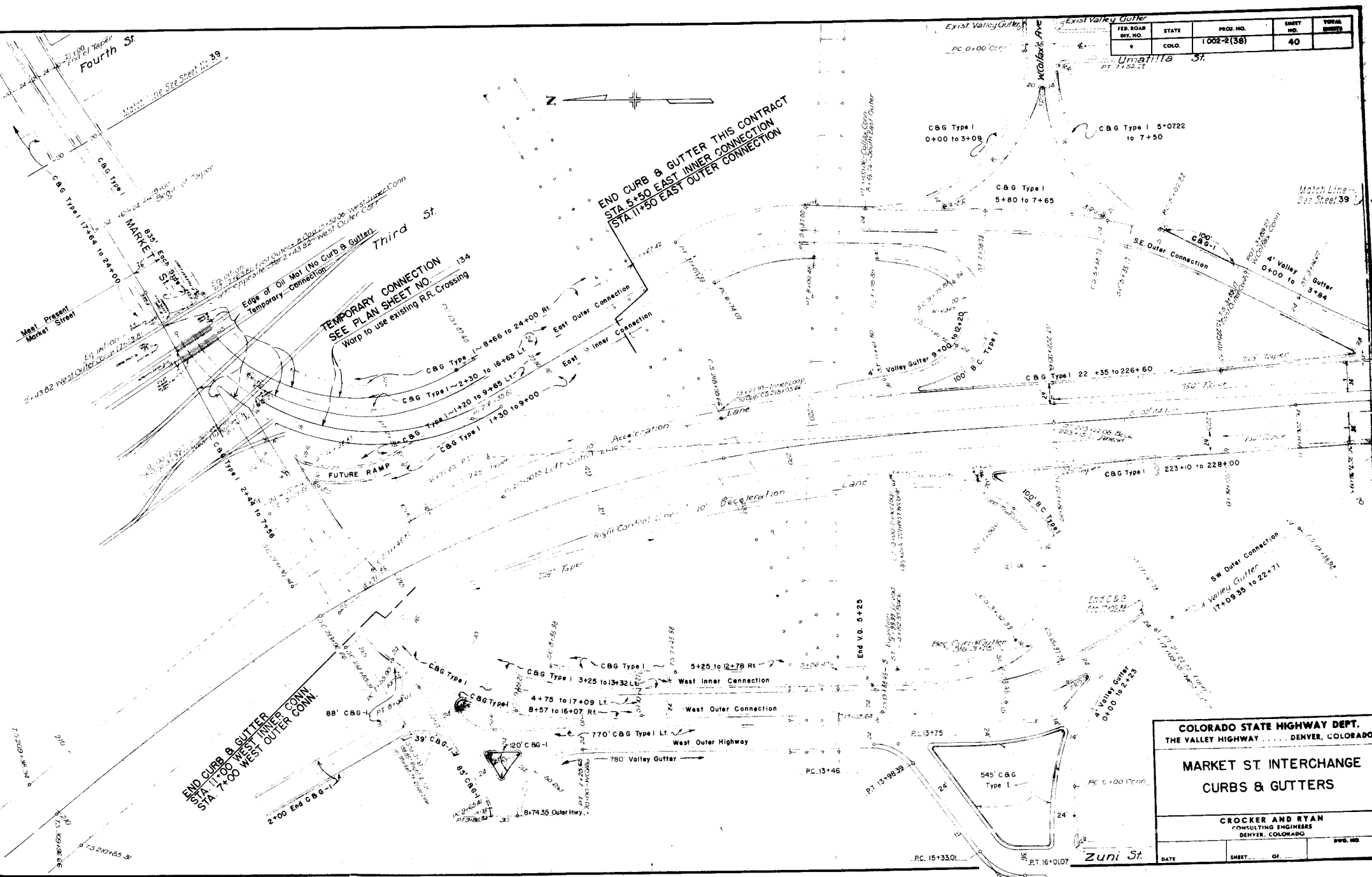
COLORADO
DEPARTMENT OF HIGHWAYS

DRAINAGE
PLAN

Designed by: _____
Made by: _____
Checked by: _____

Approved by: _____
Date: _____

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1002-2(38)	40	100



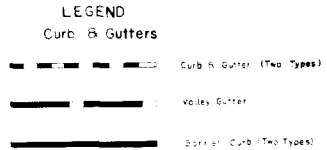
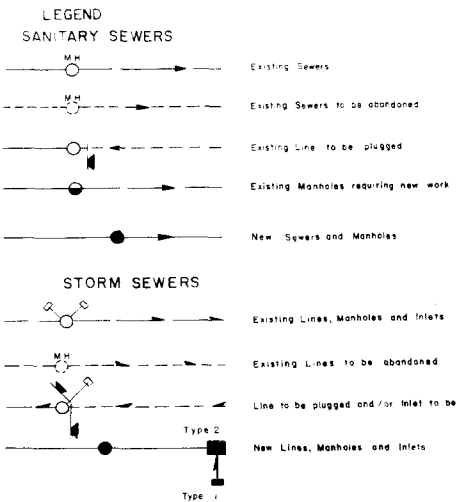
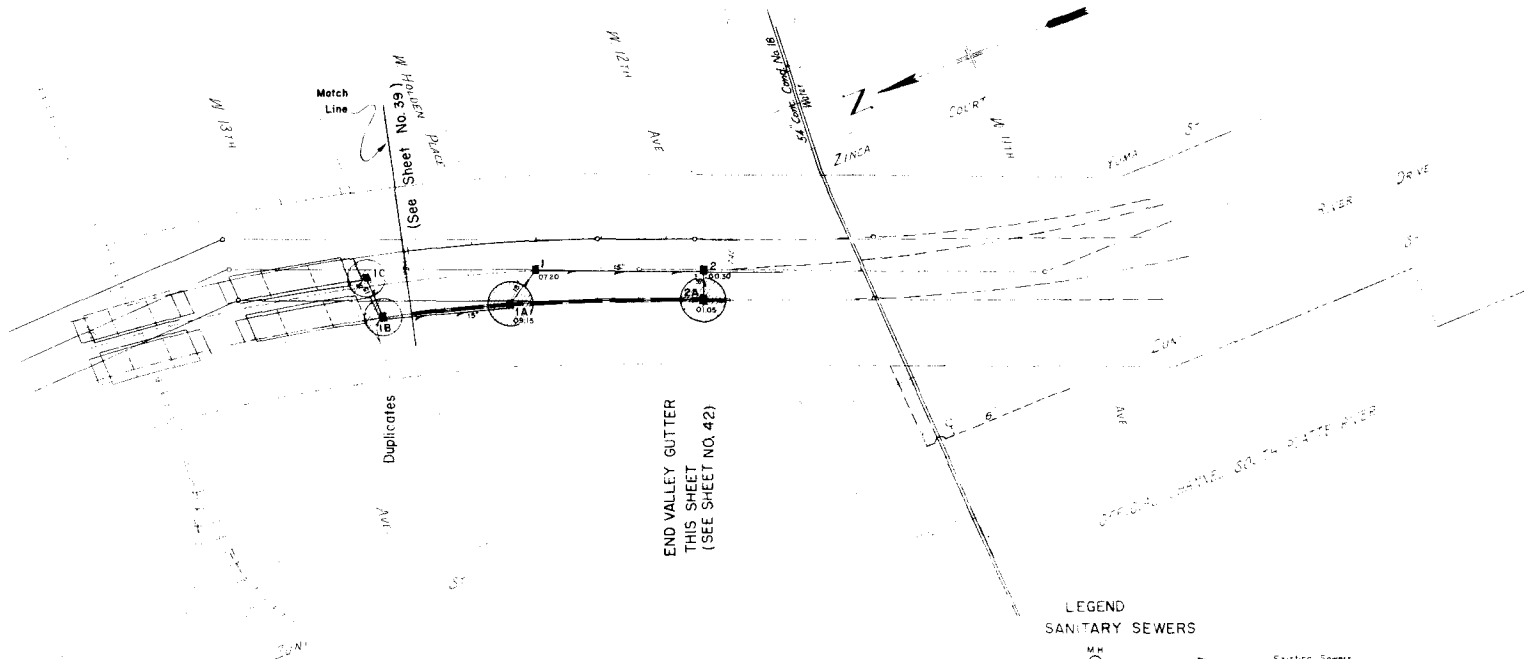
COLORADO STATE HIGHWAY DEPT.
THE VALLEY HIGHWAY DENVER, COLORADO

**MARKET ST. INTERCHANGE
CURBS & GUTTERS**

CROCKER AND RYAN
CONSULTING ENGINEERS
DENVER, COLORADO

DATE	SHEET	OF	TOTAL SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1002-2(38)	41	



COLORADO STATE HIGHWAY DEPT.
THE VALLEY HIGHWAY DENVER, COLORADO

DRAINAGE PLAN

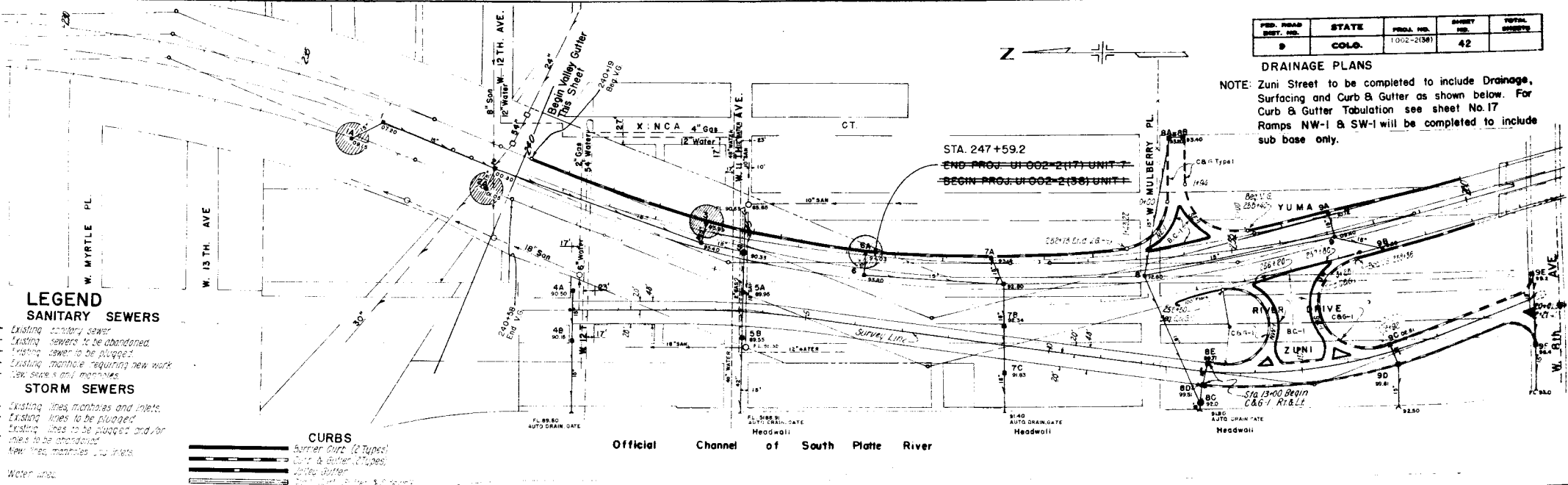
CROCKER AND RYAN
CONSULTING ENGINEERS
DENVER, COLORADO

DATE: _____ SHEET: _____ OF: _____ DWG. NO. _____

FED. ROAD DIST. NO.	STATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1002-2(38)	42	

DRAINAGE PLANS

NOTE: Zuni Street to be completed to include Drainage, Surfacing and Curb & Gutter as shown below. For Curb & Gutter Tabulation see sheet No.17
Ramps NW-1 & SW-1 will be completed to include sub base only.

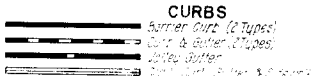


LEGEND
SANITARY SEWERS

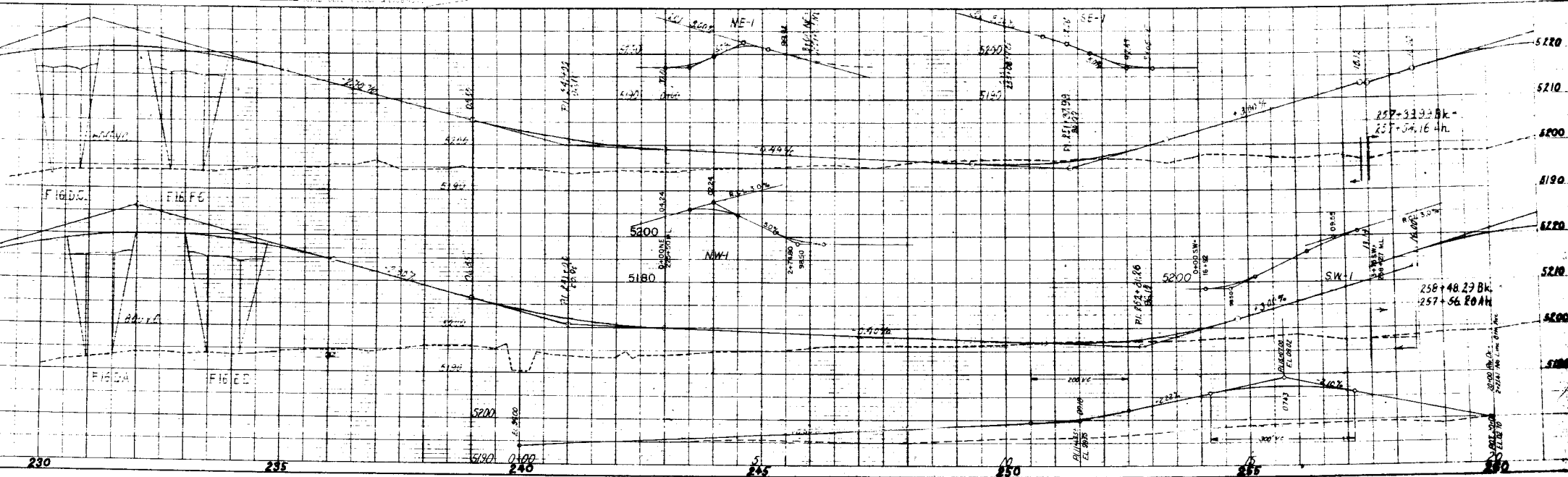
- Existing sanitary sewer
- Existing sewers to be abandoned
- Existing sewer to be plugged
- Existing manhole requiring new work
- New sewer lines

STORM SEWERS

- Existing lines, manholes and inlets
- Existing lines to be plugged
- Existing lines to be plugged and/or inlets to be abandoned
- New lines, manholes and inlets



Official Channel of South Platte River



LEGEND

SANITARY SEWERS

- Existing sanitary sewer
- Existing sewer to be abandoned
- Existing sewer to be plugged
- Existing manhole requiring new work
- New sewers and manholes

STORM SEWERS

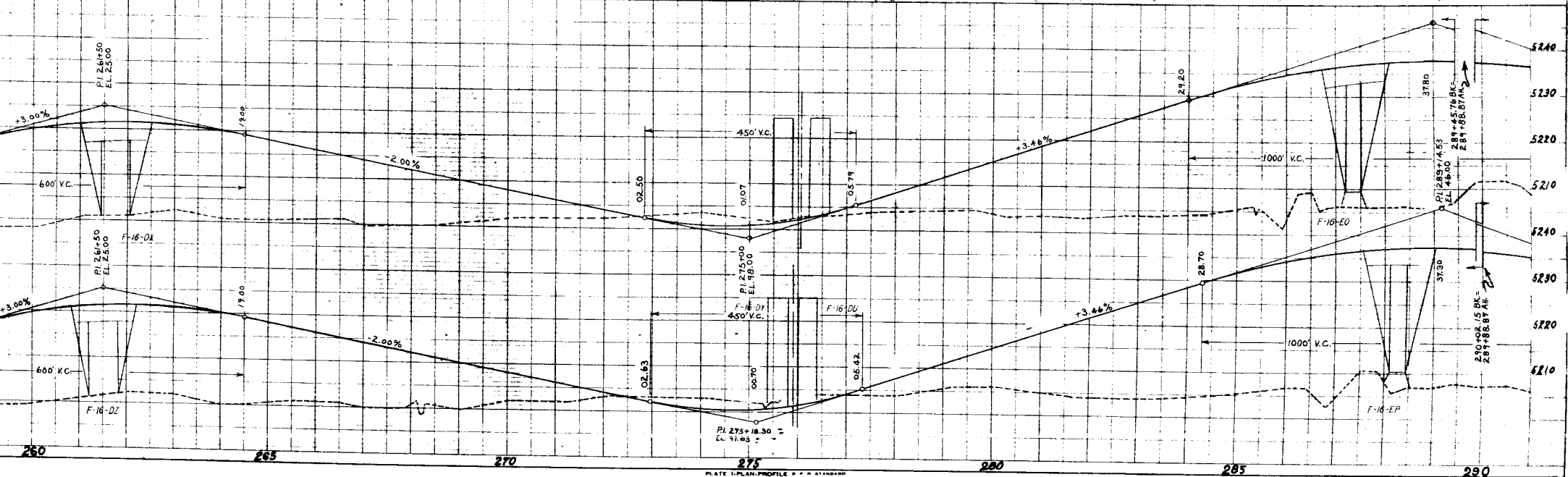
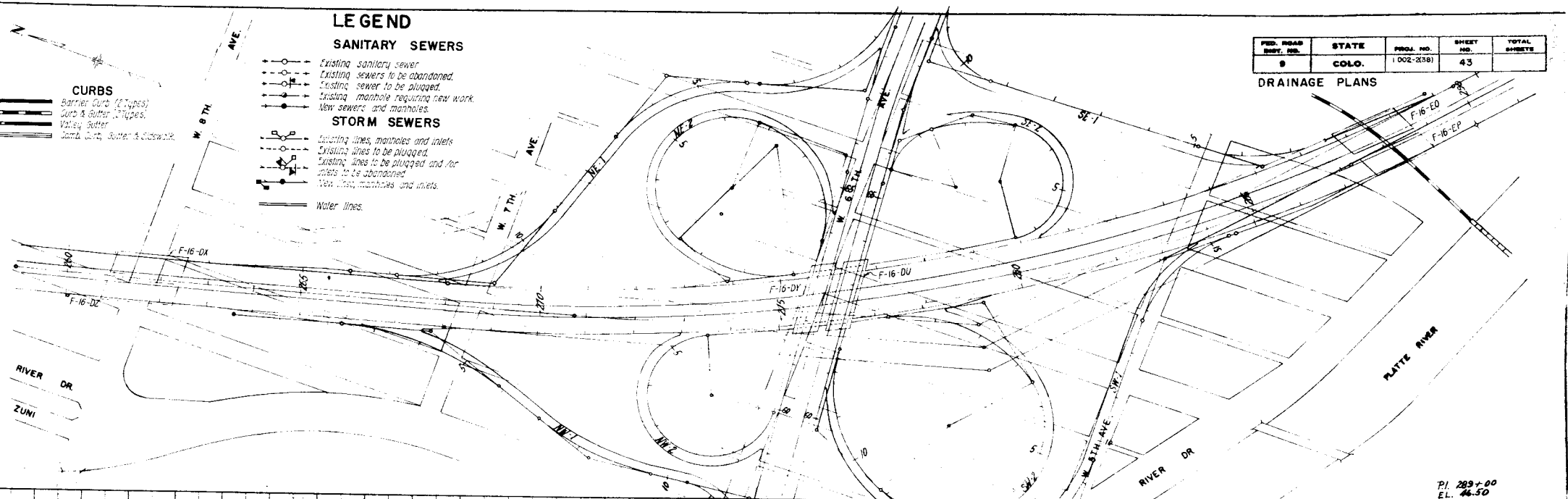
- Existing lines, manholes and inlets
- Existing lines to be plugged
- Existing lines to be plugged and for inlets to be abandoned
- New lines, manholes and inlets
- Water lines

CURBS

- Barrier Curb (2 Types)
- Curb & Gutter (2 Types)
- Valley Gutter
- Bank Curb, Gutter & Crosswalk

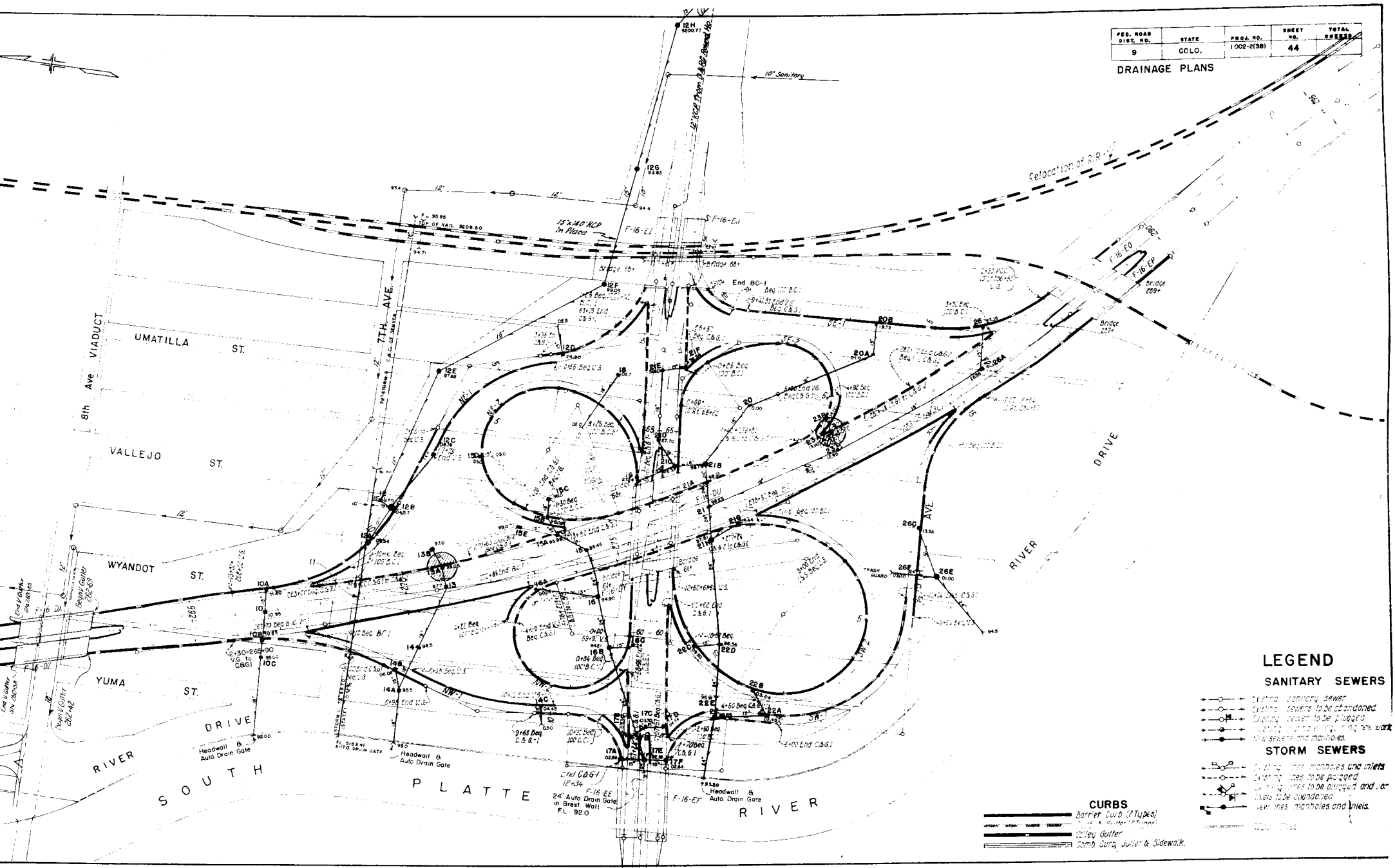
FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
8	COLO.	1002-258	43	

DRAINAGE PLANS



FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1002-2198	44	

DRAINAGE PLANS



LEGEND

SANITARY SEWERS

- Existing sanitary sewer
- Existing sewers to be abandoned
- Existing sewers to be plugged
- Existing manholes, inlets, catch basins, and manholes
- New sewers and manholes

STORM SEWERS

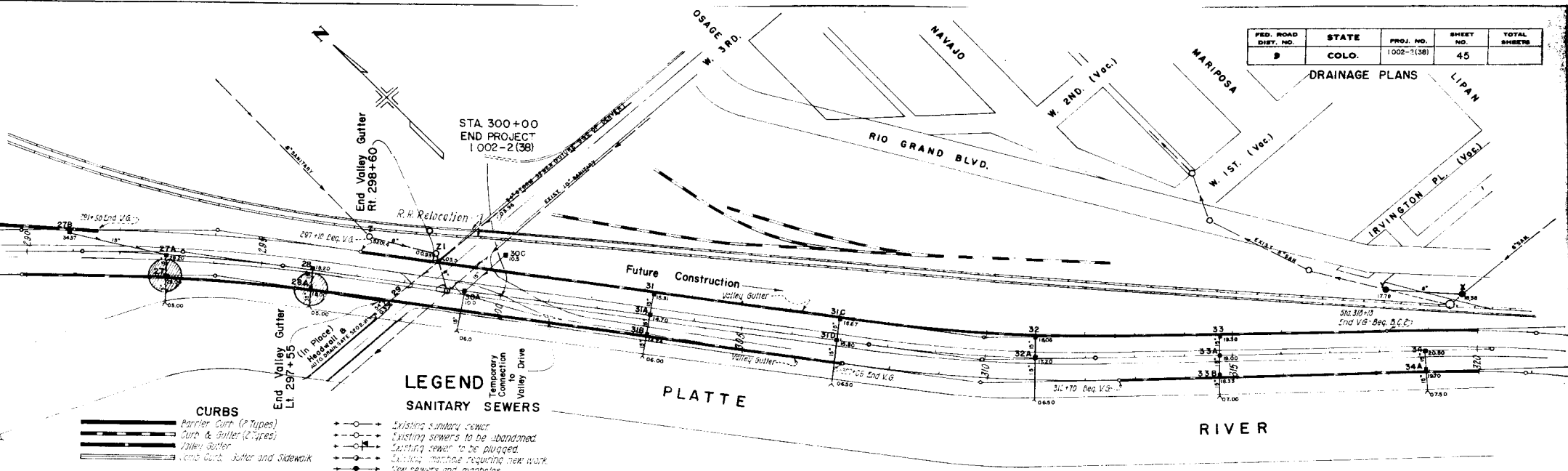
- Existing storm manholes and inlets
- Existing lines to be plugged
- Existing lines to be bridged and/or
- Existing lines to be abandoned
- Existing lines manholes and inlets

CURBS

- Barrier curb (2 Types)
- Valley Gutter
- Comb Gutter, gutter & Sidewalk

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
8	COLO.	1002-2(38)	45	

DRAINAGE PLANS



LEGEND
SANITARY SEWERS

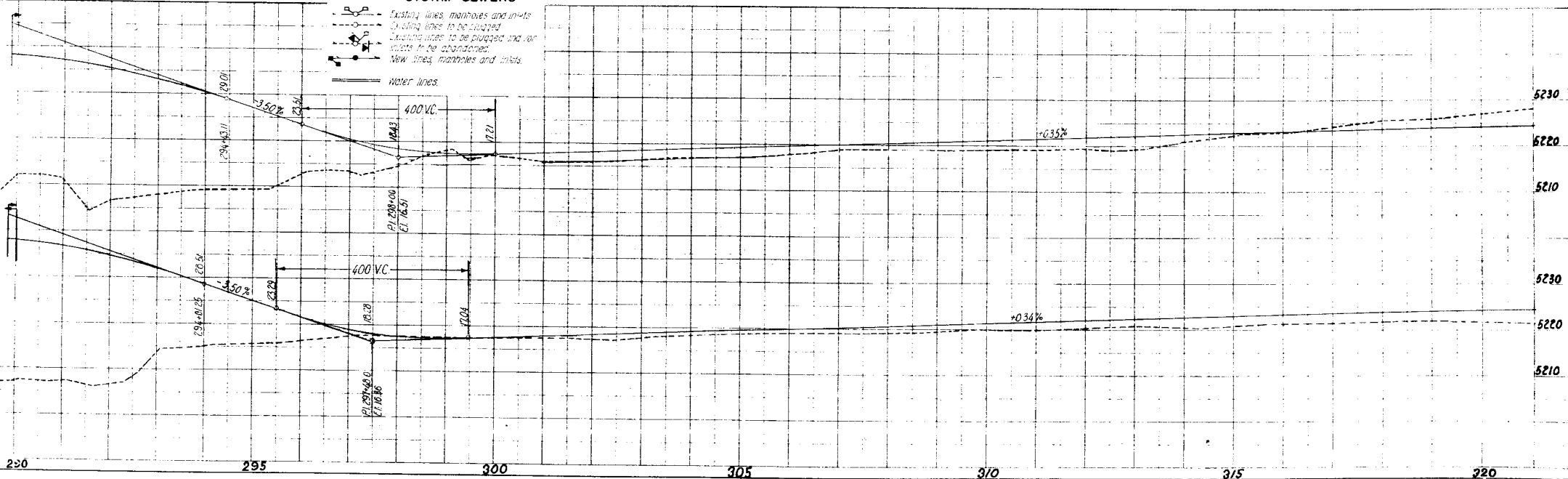
- Existing sanitary sewer
- Existing sewer to be abandoned
- Existing sewer to be plugged
- Existing manhole requiring new work
- New sewers and manholes

STORM SEWERS

- Existing lines, manholes and inlets
- Existing lines to be plugged
- Existing lines to be plugged and/or inlets to be abandoned
- New lines, manholes and inlets

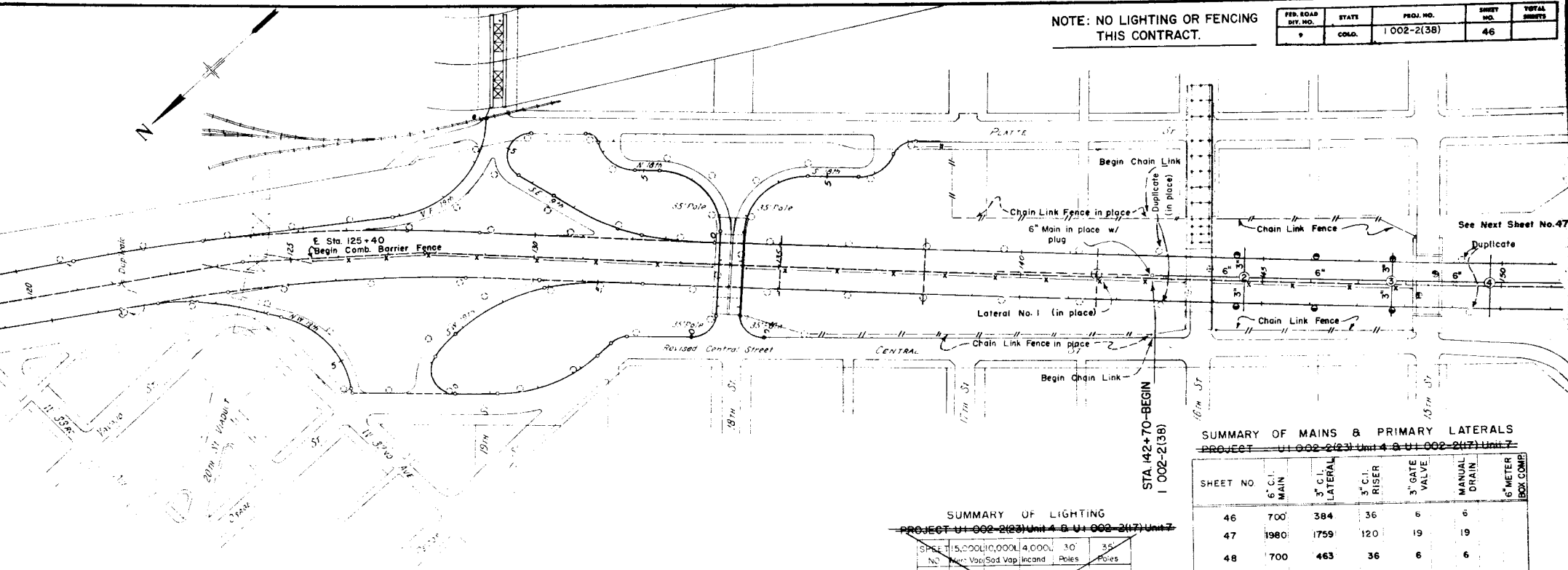
Water lines

- CURBS**
- Barrier Curb (2 Types)
 - Curb & Gutter (2 Types)
 - Valley Gutter
 - Curb, Gutter and Sidewalk



NOTE: NO LIGHTING OR FENCING THIS CONTRACT.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1 002-2(38)	46	



SUMMARY OF MAINS & PRIMARY LATERALS
PROJECT U-1 002-2(38) UNIT 4 & U-1 002-2(37) UNIT 7

SHEET NO	6" C.I. MAIN	3" C.I. LATERAL	3" C.I. RISER	3" GATE VALVE	MANUAL DRAIN	6" METER BOX COMP.
46	700	384	36	6	6	
47	1980	1759	120	19	19	
48	700	463	36	6	6	
49	1390	256	24	4	4	
TOTALS	4770	2862	216	35	35	

SUMMARY OF LIGHTING

~~PROJECT U-1 002-2(38) UNIT 4 & U-1 002-2(37) UNIT 7~~

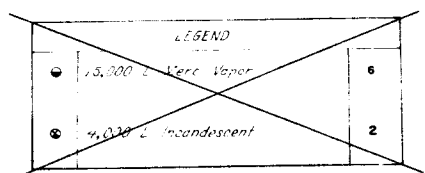
SHEET NO	15,000 Vap	10,000 Vap	4,000 Incand	30' Poles	35' Poles
6	—	2	—	6	—
69	—	—	—	—	69
64	—	—	4	—	64
75	—	—	—	—	75
6	—	—	—	—	6
Totals	145	6	145		

Note: See Sheet No. 50 For Detail of Sprinkler Lateral Location
See Sheet No. 47 For Detail of Lighting Standard

SHEET SUMMARY

SURVEY LINE STATION	6" C.I. MAIN	3" C.I. LATERAL	3" C.I. RISER	6" GATE VALVE	3" GATE VALVE	MANUAL DRAIN
② 144+60	190	128	12	—	2	2
③ 147+70	310	128	12	—	2	2
④ 149+70	200	128	12	—	2	2
SHEET TOTAL	700	384	36	—	6	6

FENCING	SHEET TOTAL Lin. Ft.
Chain Link Wire Mesh	980
Combination Wire Fence (Barrier)	2150
Combination Wire Fence	



COLORADO
DEPARTMENT OF HIGHWAYS

SPRINKLER LATERALS
LIGHTING AND FENCING

Designed by: _____
Made by: _____
Checked by: _____

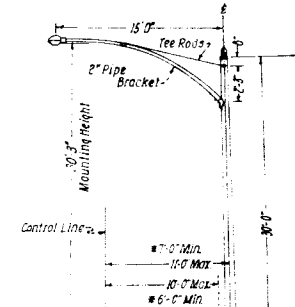
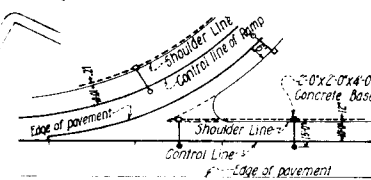
Approved by: _____
Date: _____

SHEET SUMMARY

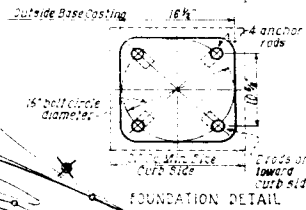
LINE NO.	6" C.I. MAIN	3" C.I. LATERAL	3" C.I. RISER	6" GATE VALVE	3" GATE VALVE	MANUAL DRAIN
	320	138	12		2	2
	200	154	12		2	1
	230	74	6		1	1
	250	74	6		1	1
	270	138	12		2	2
	290	148	12		2	2
	420	148	12		2	2
40NW-1	80	6	6			1
30NW-1	130	3	3			1
40NE-1	160	6	6			1
40E-1	100	9	9			1
S.E-1	85	6	6			1
S.E-1	60	6	6			1
00 SW-1	270	12	12			1
TOTALS	1980	1759	120		19	19

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLOR.	1002-E(38)	47	

Note: All extruded aluminum lighting standards, round 8"x4" taper, transformer base with door, 1"x40" galv. steel anchor bolts, 15" bolt circle at base of transformer base. Top bolt circle of transformer base and base flange slotted for 1 1/4" diameter bolt circle.



*These dimensions apply only where poles are set on narrow shoulder (left) side of Ramps



DESCRIPTION	QUANTITY	UNIT	PRICE
Chain Link Fence	4320	Lin. Ft.	
Light pole in place	3130		

Note: Lights "X"ed out on plan are in place

LEGEND	UNIT	QUANTITY	PRICE
15,000 L. Merc Vapor	69	69	
4,000 L. Incandescent	0	0	

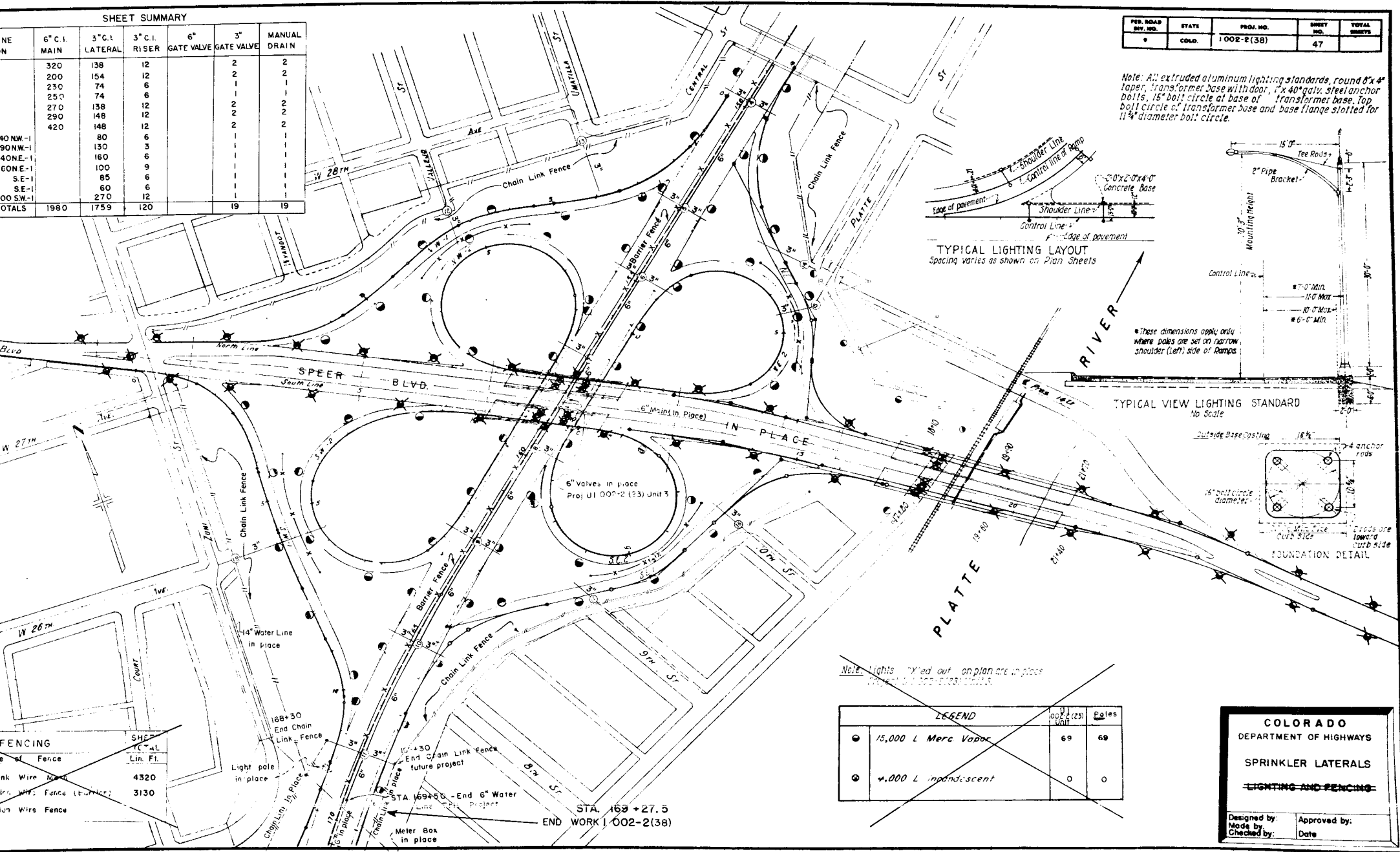
COLORADO
DEPARTMENT OF HIGHWAYS

SPRINKLER LATERALS

LIGHTING AND FENCING

Designed by: _____
Checked by: _____

Approved by: _____
Date: _____

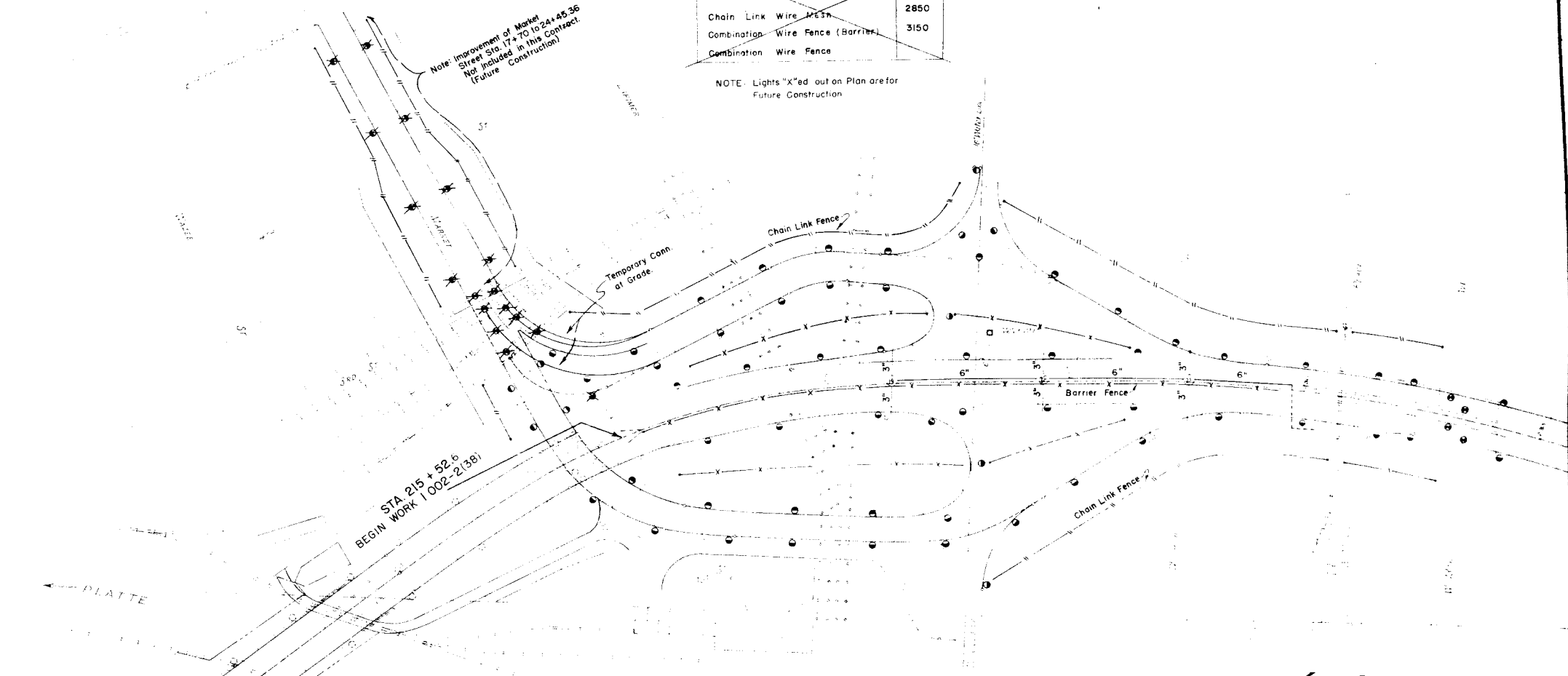


FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1002-2(38)	48	

FENCING		SHEET TOTAL
Type of Fence		Lin. Ft.
Chain Link Wire Mesh		2850
Combination Wire Fence (Barrier)		3150
Combination Wire Fence		

NOTE: Lights "X"ed out on Plan are for Future Construction

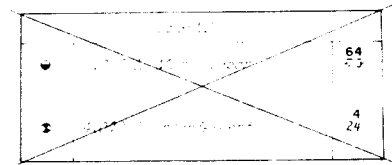
Note: Improvement of Marker Sheet Sta. 17+70 to 24+45.36 Not Included in this Contract. (Future Construction)



STA 215+52.6
BEGIN WORK 1002-2(38)

SHEET SUMMARY

SURVEY LINE STATION	6" C.I. MAIN	3" C.I. LATERAL	3" C.I. RISER	6" GATE VALVE	3" GATE VALVE	MANUAL DRAIN
19 221+50	—	162	12		2	2
20 224+50	300	128	12		2	2
21 227+50	300	173	12		2	2
223+40	100					
SHEET TOTAL	700	463	36		6	6

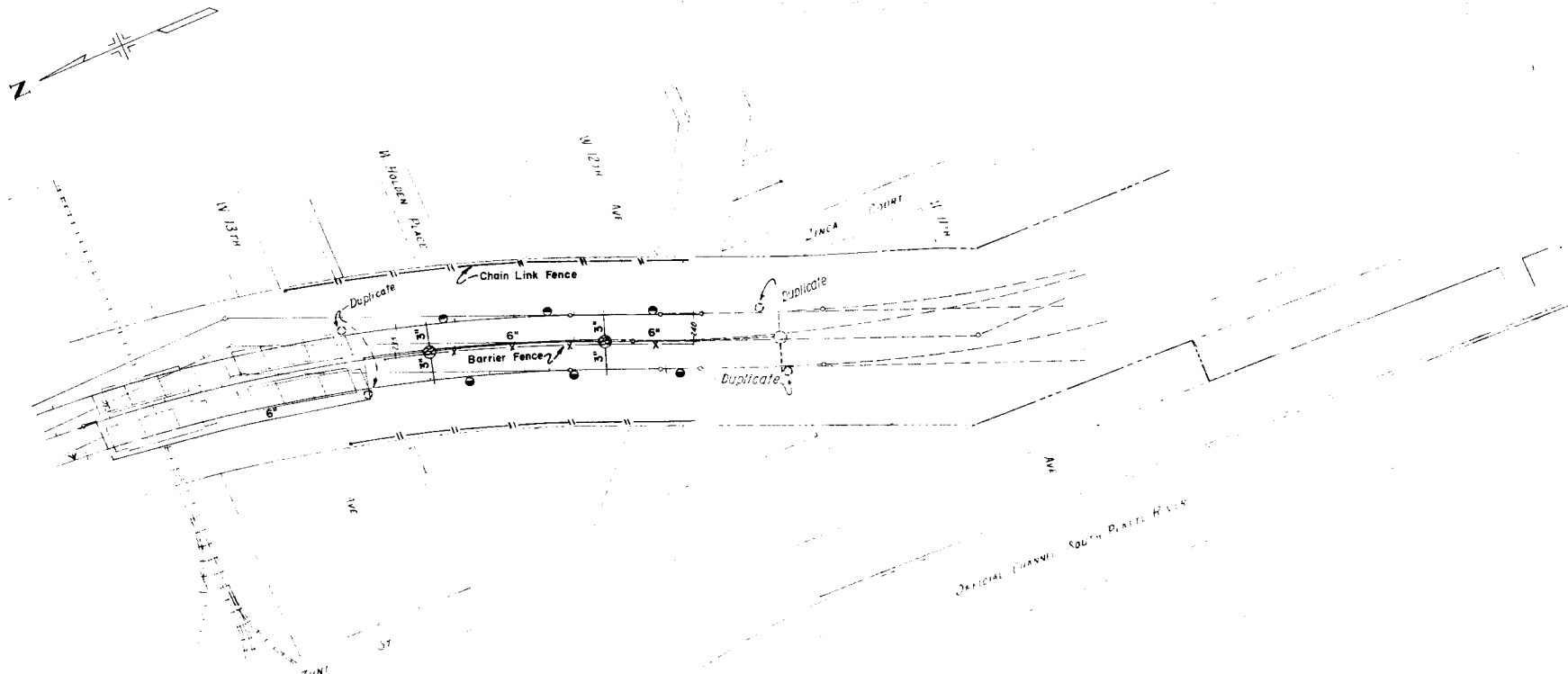


COLORADO
DEPARTMENT OF HIGHWAYS

SPRINKLER LATERALS

~~LIGHTING & FENCING~~

Designed By: _____ Approved By: _____
 Made By: _____ Checked By: _____
 Date: _____



SHEET SUMMARY

SURVEY LINE STATION	6" C.I. MAIN	3" C.I. LATERAL	3" C.I. RISER	6" GATE VALVE	3" GATE VALVE	MANUAL DRAIN
235+50	940	128	12	—	2	2
238+50	300	128	12	—	2	2
240+00	150	—	—	—	—	—
SHEET TOTAL	1390	256	24	—	4	4

FENCING	SHEET TOTAL Lin. Ft.
Chain Link Wire Mesh	1300'
Combination Wire Fence (Barrier)	550'
Combination Wire Fence	

LEGEND	
● 15,000 L. Merc 1000	6
● 5,000 L. Incandescent	0

COLORADO
DEPARTMENT OF HIGHWAYS

SPRINKLER LATERALS
— LIGHTING FIXTURES —

Designed by: _____
Checked by: _____

Approved by: _____
Date: _____

FENCING		SHEET TOTAL
Type of Fencing	Lin Ft.	
Chain Link Wire Mesh		
Combination Wire Fence (Barrier)		
Combination Wire Fence		

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
8	COLO.	1002-2(58)	51	

FENCING, SPRINKLER LATERALS & LIGHTING

DUPLICATE 20

F-16-EO
F-16-EP
DUPLICATE

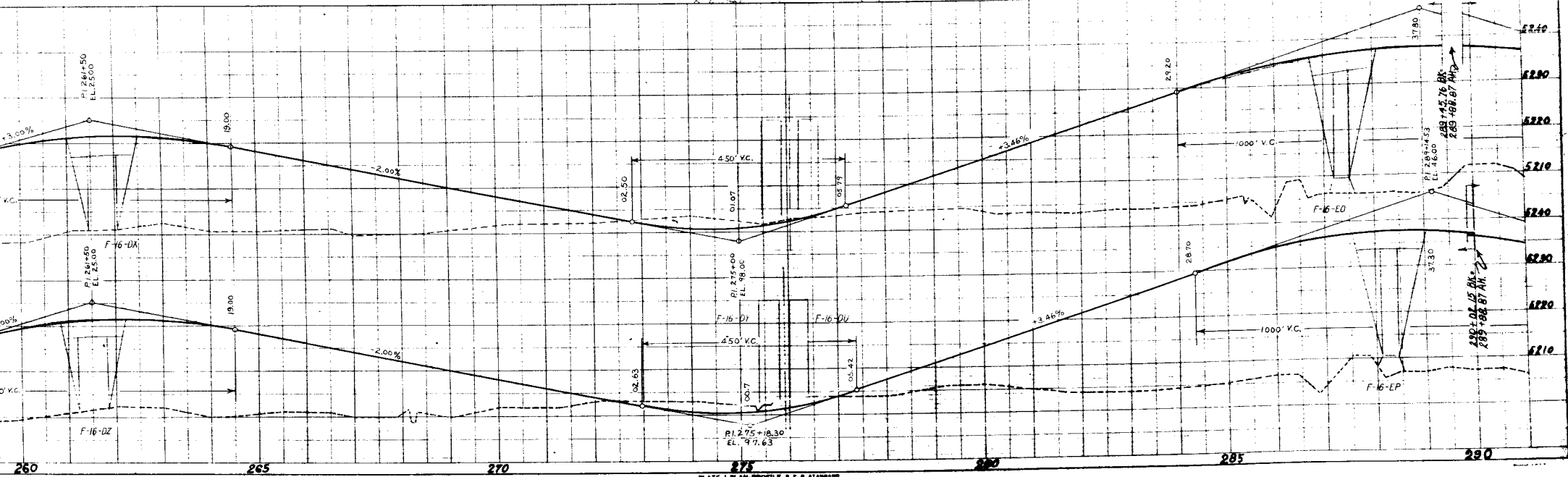
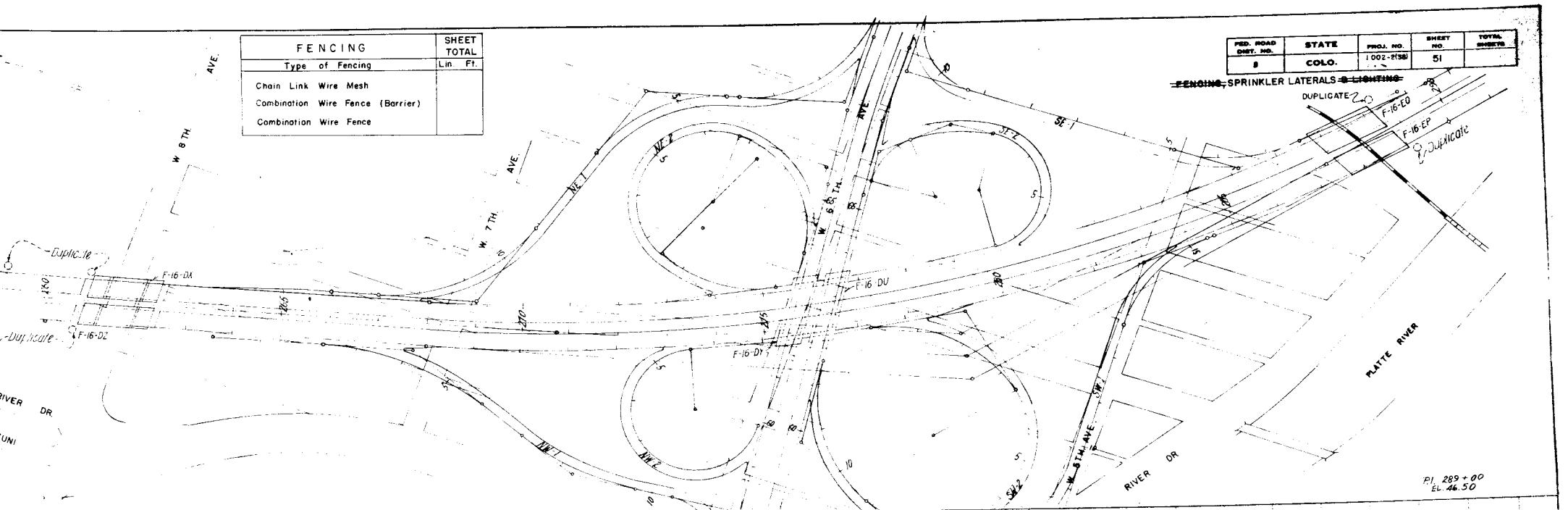
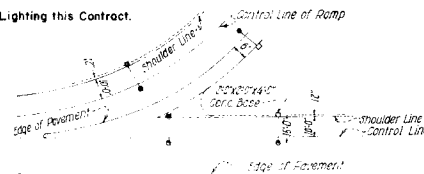


PLATE I-PLAN-PROFILE

LEGEND				FENCING		SHEET	
Symbol	Quantity	Description	Type of Fencing	Total Lin. Ft.	Total	Sheet No.	Total Sheets
●	15,000	Merc Vapor	Chain Link Wire Mesh	2400	2400	52	52
●	4,000	Incandescent	Combination Wire Fence (Barrier)	4425	4425		
			Combination Wire Fence				

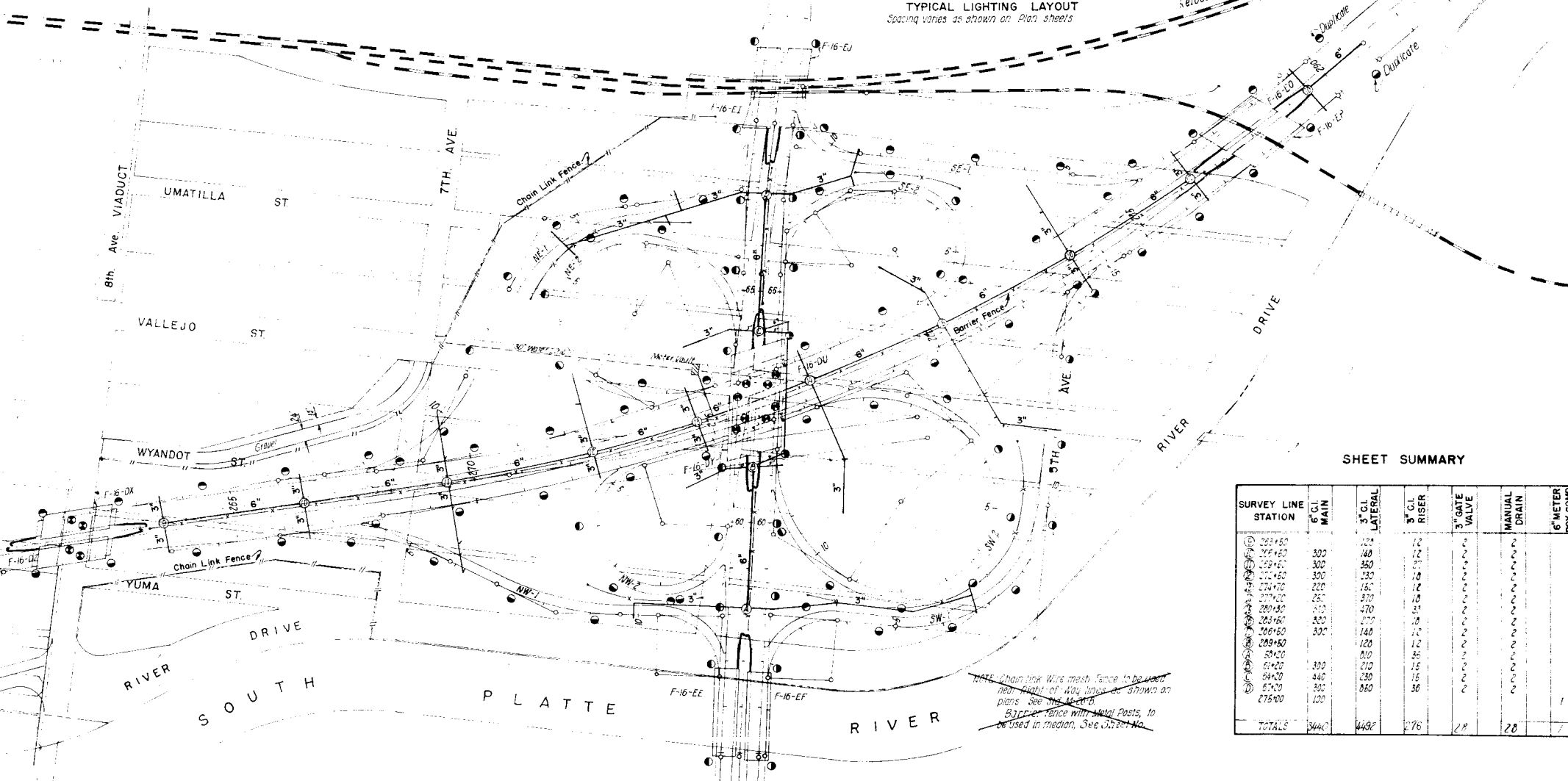
Note: No Lighting this Contract.



TYPICAL LIGHTING LAYOUT
Spacing varies as shown on Plan sheets

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1009-256	52	

FENCING, SPRINKLER, LATERALS & LIGHTING



SHEET SUMMARY

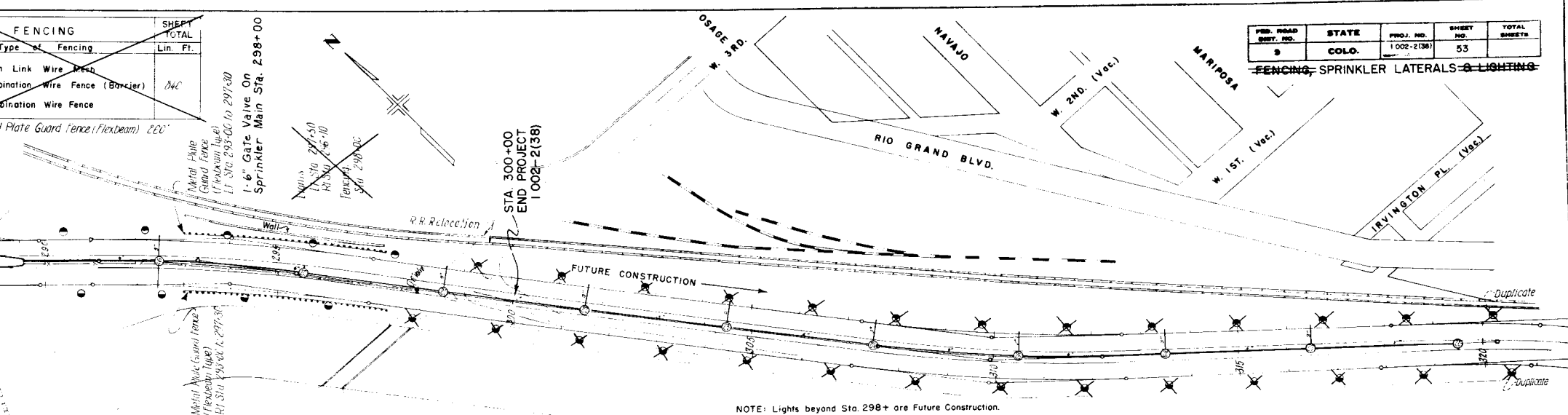
SURVEY LINE STATION	6" GL MAIN	3" GL LATERAL	3" GL RISER	3" GATE VALVE	MANUAL DRAIN	6" METER BOX COMP
269+50		104	12			
277+25	300	148	12			
299+25	300	350	20			
275+55	300	130	18			
274+75	200	160	12			
273+25	250	370	18			
280+50	100	470	24			
283+60	300	270	24			
286+50	300	148	12			
289+50	120	120	12			
29+20	510	85	8			
61+20	300	210	15			
64+20	440	230	15			
67+20	300	350	36			
278+00	100					1
TOTALS	3440	4492	276	28	28	1

NOTE: Chain Link Wire mesh Fence to be used near right of Way lines as shown on plans. See also M-10-18.
Barrier Fence with Metal Posts, to be used in median. See Sheet No.

FENCING		SHEET TOTAL
Type of Fencing	Lin. Ft.	
Link Wire Mesh		
Combination Wire Fence (Barrier)	840	
Galvanneal Wire Fence		

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1 002-2(38)	53	

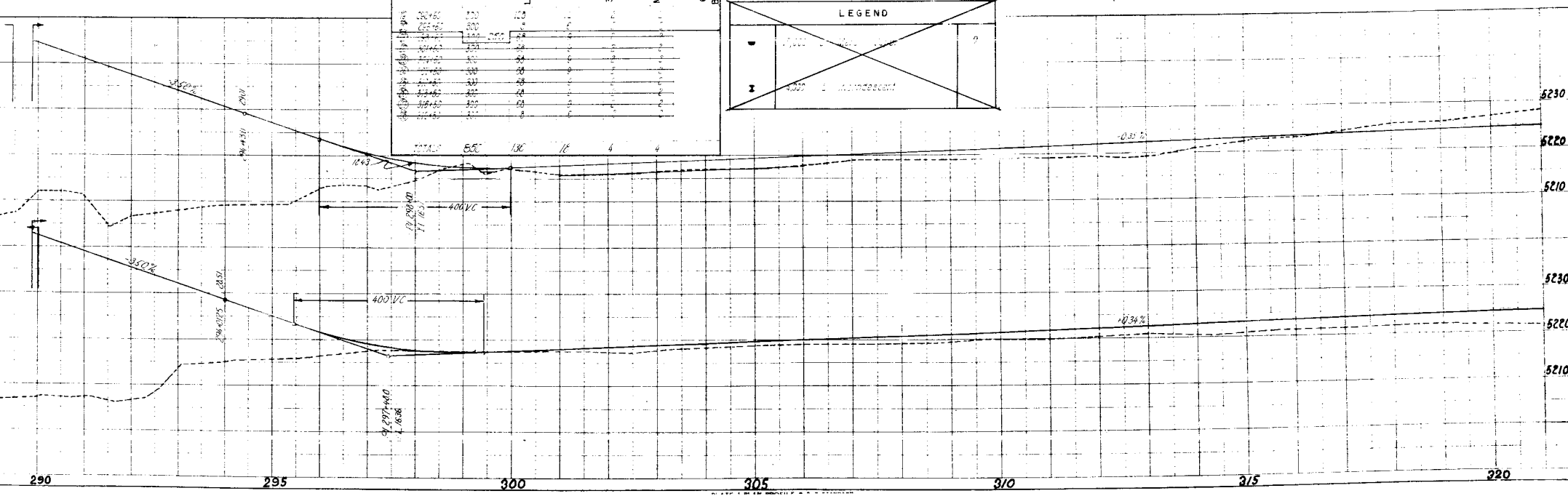
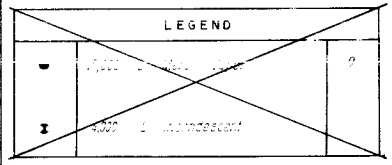
FENCING, SPRINKLER LATERALS & LIGHTING

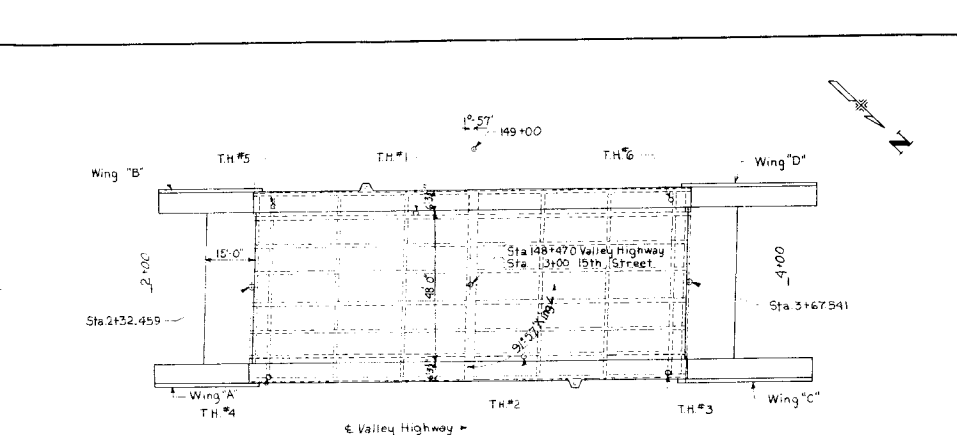


NOTE: Lights beyond Sta. 298+ are Future Construction.

SHEET SUMMARY

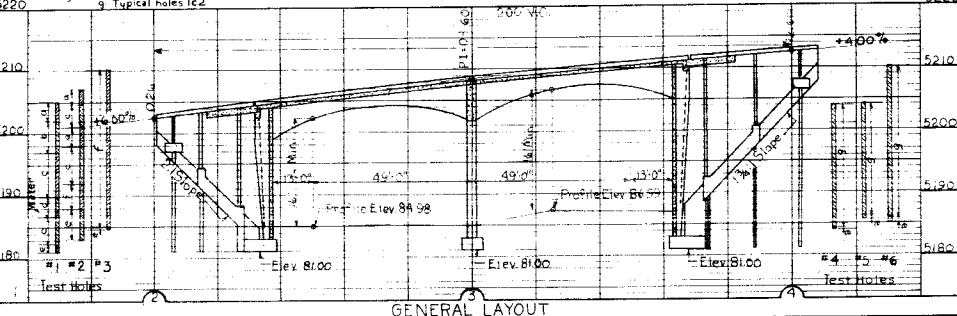
SURVEY LINE STATION	6" CI. MAIN	3" CI. LATERAL	3" CI. RISER	3" GATE VALVE	MANUAL DRAIN	6" METER BOX COMP.
297+00	100	100	100	100	100	100
298+00	100	100	100	100	100	100
299+00	100	100	100	100	100	100
300+00	100	100	100	100	100	100
301+00	100	100	100	100	100	100
302+00	100	100	100	100	100	100
303+00	100	100	100	100	100	100
304+00	100	100	100	100	100	100
305+00	100	100	100	100	100	100
306+00	100	100	100	100	100	100
307+00	100	100	100	100	100	100
308+00	100	100	100	100	100	100
309+00	100	100	100	100	100	100
310+00	100	100	100	100	100	100
311+00	100	100	100	100	100	100
312+00	100	100	100	100	100	100
313+00	100	100	100	100	100	100
314+00	100	100	100	100	100	100
315+00	100	100	100	100	100	100
316+00	100	100	100	100	100	100
317+00	100	100	100	100	100	100
318+00	100	100	100	100	100	100
319+00	100	100	100	100	100	100
320+00	100	100	100	100	100	100
TOTAL	500	100	100	4	4	4





Sounding Legend

Sandy Loam	4 Clean Sand
Sandy Clay	5 Gravel
Brown Clay	6 Sand & Gravel
220	9 Typical holes 1c2



SUMMARY OF QUANTITIES									
Item	Description	Unit	Frames (Int. & Ext.)	Pier	Breastwall & Footing	Slab (incl. Walks)	Wings (incl. Walks) A C D	Total	2 Approach Slabs
14a	Dry Rock Excavation (Str.)	Cu. Yd.					50	45	95
14b	Dry Common Excavation (Str.)	Cu. Yd.		50	40		5	5	100
14c	Wet Rock Excavation (Str.)	Cu. Yd.		10	18.5		5	5	205
14d	Wet Common Excavation (Str.)	Cu. Yd.		35	12.5		60	35	255
16a	Structure Backfill (Class I)	Cu. Yd.		4	35		19	12	65
16c	Mechanical Tamping	Sq. Ft.							
16d	1/2" Jt. Filler	Sq. Ft.							
16e	1/2" Jt. Filler	Sq. Ft.							
16f	1/2" Jt. Filler	Sq. Ft.							
16g	1/2" Jt. Filler	Sq. Ft.							
16h	1/2" Jt. Filler	Sq. Ft.							
16i	1/2" Jt. Filler	Sq. Ft.							
16j	1/2" Jt. Filler	Sq. Ft.							
16k	1/2" Jt. Filler	Sq. Ft.							
16l	1/2" Jt. Filler	Sq. Ft.							
16m	1/2" Jt. Filler	Sq. Ft.							
16n	1/2" Jt. Filler	Sq. Ft.							
16o	1/2" Jt. Filler	Sq. Ft.							
16p	1/2" Jt. Filler	Sq. Ft.							
16q	1/2" Jt. Filler	Sq. Ft.							
16r	1/2" Jt. Filler	Sq. Ft.							
16s	1/2" Jt. Filler	Sq. Ft.							
16t	1/2" Jt. Filler	Sq. Ft.							
16u	1/2" Jt. Filler	Sq. Ft.							
16v	1/2" Jt. Filler	Sq. Ft.							
16w	1/2" Jt. Filler	Sq. Ft.							
16x	1/2" Jt. Filler	Sq. Ft.							
16y	1/2" Jt. Filler	Sq. Ft.							
16z	1/2" Jt. Filler	Sq. Ft.							
90	1/2" Conduit with Junction Box	Lin. Ft.	165						165
91b	Steel Railing (Includes Apr. Slab)	Lin. Ft.	269						269
61a	Steel Pipe Piling (10% O.D. Tga.)	Lin. Ft.					116	228	344
60x	Drill holes to facilitate pile driving	Lin. Ft.					112	227	339
1/2" Jt. Filler (Type III)	Sq. Ft.			60	130		13	16	219
1/2" Jt. Filler (Type III)	Sq. Ft.						98	59	107
32a	Plant Mixed Asphaltic Surfacing	Ton	See Project Summary						

* To be included in the bid price of Class "A" Conc. and shall conform to AASHTO Spec. M-153-54 of type shown.
 † Includes 5 Cu. Yd. of Concrete in pipe piles

BAR LIST - BREASTWALL (FOOTING)					
Mark	Size	No.	Length	Type	Dimensions
					ft. m.
4178	1/2"	46	32'-0"	Str.	
4179	1/2"	46	27'-10"	Str.	
4184	1/2"	98	27'-3"	Str.	
4185	1/2"	98	21'-0"	Str.	
4186	1/2"	88	12'-3"	VI	4'-1" 1'-8"
504	3/8"	58	33'-1"	Str.	
505	3/8"	58	28'-0"	Str.	
506	3/8"	132	4'-0"	Str.	
507	3/8"	32	4'-0"	Str.	
508	3/8"	8	14'-9"	XII	10'-9" 4'-0"
509	3/8"	8	8'-1"	XII	7'-0" 1'-1"
702	1/2"	14	60'-0"	Str.	
703	1/2"	80	5'-0"	Str.	
714	1/2"	12	41'-2"	Str.	
715	1/2"	12	32'-9"	Str.	
821	1"	68	3'-6"	Str.	
1118	1 1/2"	96	6'-5"	XIII	

BAR SUMMARY					
6605	lin. ft.	127	@ 0.6687	lin. ft.	5748 lbs.
4382	lin. ft.	36	@ 1.0437	lin. ft.	4570 lbs.
2127	lin. ft.	36	@ 2.0447	lin. ft.	4348 lbs.
238	lin. ft.	1	@ 2.6707	lin. ft.	635 lbs.
616	lin. ft.	1	@ 5.3137	lin. ft.	3273 lbs.
Plus 1% for Overrun = 1861 lbs.					
Total = 18760 lbs.					

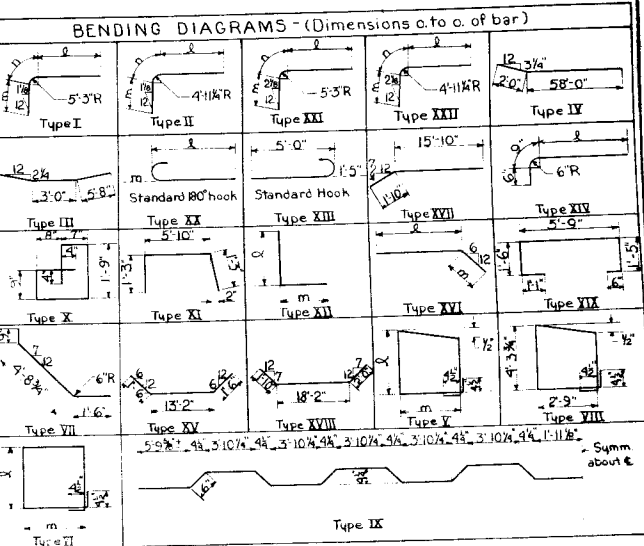
BAR LIST PIER					
Mark	Size	No.	Length	Type	Dimensions
					ft. m.
4180	1/2"	24	18'-7"	VI	6'-2" 2'-9"
4181	1/2"	38	14'-9"	VII	
4182	1/2"	57	19'-2"	VI	4'-2" 2'-9"
614	3/4"	35	5'-3"	Str.	
615	3/4"	30	7'-0"	Str.	
905	1 1/8"	10	60'-0"	Str.	
1114	1 1/8"	20	9'-9"	Str.	
1115	1 1/8"	20	12'-9"	Str.	
1116	1 1/8"	70	19'-9"	Str.	
1117	1 1/8"	50	6'-11"	VII	

BAR SUMMARY PIER					
1847	lin. ft.	127	@ 0.6687	lin. ft.	1234 lbs.
394	lin. ft.	36	@ 1.5027	lin. ft.	592 lbs.
600	lin. ft.	1	@ 3.4007	lin. ft.	2040 lbs.
2178	lin. ft.	1	@ 5.3137	lin. ft.	11572 lbs.
Plus 1% for Overrun = 152 lbs.					
Total = 15590 lbs.					

BAR LIST SLAB					
Mark	Size	No.	Length	Type	Dimensions
					ft. m.
4170	1/2"	57	16'-1"	Str.	
4171	1/2"	171	40'-0"	Str.	
4172	1/2"	134	8'-4"	XI	
4173	1/2"	14	17'-6"	Str.	
4174	1/2"	42	40'-0"	Str.	
4175	1/2"	70	6'-8"	X	
4176	1/2"	112	6'-0"	VI	2'-2 1/2" 5"
4177	1/2"	6	7'-8"	VI	1'-2 1/2" 2'-3"
500	1/2"	200	60'-0"	Str.	
501	1/2"	90	60'-0"	IX	
502	3/8"	12	10'-3"	Field Bend	
503	3/8"	12	9'-6"	Str.	
601	3/4"	8	60'-0"	Str.	
701	3/4"	8	60'-0"	Str.	
819	1"	4	60'-0"	Str.	

BAR SUMMARY SLAB					
11985	lin. ft.	127	@ 0.6687	lin. ft.	8005 lbs.
17637	lin. ft.	36	@ 1.0437	lin. ft.	18395 lbs.
480	lin. ft.	1	@ 1.5027	lin. ft.	721 lbs.
480	lin. ft.	1	@ 2.0447	lin. ft.	981 lbs.
240	lin. ft.	1	@ 2.6707	lin. ft.	641 lbs.
Plus 1% for Overrun = 287 lbs.					
Total = 29030 lbs.					

FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
	COLO.	I002-2(38)	54	



GENERAL NOTES

ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO DEPARTMENT OF HIGHWAYS APPLICABLE TO THIS PROJECT.

ALL CONCRETE SHALL BE CLASS "A" AND REINFORCED BY STEEL.

CONCRETE SHALL RECEIVE CLASS "B" SURFACE FINISH.

WIND SURFACES SHALL RECEIVE CLASS "B" SURFACE FINISH.

CONCRETE JOISTS, ROOF SLABS AND CURBS SHALL BE FORMED MONOTONICALLY.

FORMS FOR CONCRETE SURFACES FORMED IN THE FINISHED WORK SHALL BE CONSTRUCTED OF STEEL OR CONCRETE AND GROOVES SHALL BE 1/2" DEEP AND 1/2" WIDE.

FOOTINGS IN ROCK SHALL BE FORMED DOWN IN ACCORDANCE WITH THE BEST AVAILABLE SOUNDING AND BENCHING CONDITIONS AS DETERMINED BY THE BRIDGE ENGINEER. WELL IN DATA AND WITH MINIMUM EXCESS IS NECESSARY.

ALL REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A 305 OR ON THE LATEST ALL REINFORCING STEEL SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR FOLLOWING TRENCH AND SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR SHALL BE TIED WITH THE NUMBER DESIGNATION AND THE SECTION NUMBER OF THE REINFORCING STEEL.

SECONDARY BARS WHEN SPACED SHALL LAP 35 DIAMETERS OF THE BARS. DIMENSIONS FOR REINFORCING STEEL SHALL BE GIVEN AS CLEAR SHALL BE TO THE CENTER LINE OF THE BAR.

ALL STRUCTURAL STEEL SHALL BE PAINTED ONE SHOP COAT OF ZINC CHROMATE AND TWO FIELD COATS OF ALUMINUM UNLESS OTHERWISE NOTED EXCEPT THE OVERHEAD PORTION OF STEEL PILING NEED NOT BE PAINTED.

HANDRAIL BOLTS SHALL HAVE HEX HEADS, NUTS AND LOCK WASHERS UNLESS OTHERWISE SPECIFIED AND ALL PAVES EXCEPT AS NOTED ARE 1/2" DIA. AND SHALL BE POWER DRIVEN WHEN TREATED TIMBER OR PILING IS SHOWN ON THE DRAWING THE PRESERVATIVE FOR TREATMENT SHALL BE CROCODOTE OIL.

WHEN EXCAVATING FOR FOOTINGS THE FINAL ONE FOOT IN DEPTH SHALL BE DONE BY HAND BARGE METHOD.

PRIMARY BARS SHALL NOT BE SPACED EXCEPT BY PERMISSION OF THE BRIDGE ENGINEER. WHEN PRIMARY BARS ARE SPACED THEY SHALL LAP 36 DIA. INCHES FOR BARS NEAR TOP OF BEAMS AND OTHERS SHALL LAP 36 DIA. INCHES OF CONCRETE UNDER THE BARS AND 30 DIAMETERS FOR BARS NEAR BOTTOM OF MEMBERS.

LOADING DATA	
Live Load	AASHTO H20 S16.40
Impact Allowance Assumed	25% PER SAFT ASPHALTIC SURFACING

DESIGNING DATA	
Concrete	15000 lbs. per sq. in.
Reinforcing Steel	20000 lbs. per sq. in.
Structural Steel	36000 lbs. per sq. in.
Allowable Stress	10

COLORADO

DEPARTMENT OF HIGHWAYS

2-SPAN @ 63'-3/4" RIGID FRAME
 CONCRETE BRIDGE 48'-0" RDWY
 62'-6-3/4" SIDEWALKS, 1'-0" RDWY
 GENERAL LAYOUT SUMMARY OF
 QUANTITIES & NOTES

15th Street
 Sta 148+47.0

In Denver Sec. T. R.

Designed by G. E. T. Approved by _____
 Made by D. K. J. Bridge Engineer
 Checked by _____ Date: 2/17/61 1956

BAR LIST - FRAME

Mark	Size	No.	Length	Type	Dimensions			
					l	m	n	p
402	1/2"	210	11'-6"	Str.	2'-0"	1'-5"		
403	1/2"	12	7'-7"	V	2'-0"	1'-5"		
404	1/2"	12	7'-7"	V	2'-0"	1'-5"		
405	1/2"	12	7'-8"	V	2'-0"	1'-5"		
406	1/2"	12	7'-8"	V	2'-1"	1'-5"		
407	1/2"	12	7'-9"	V	2'-1"	1'-5"		
408	1/2"	12	7'-10"	V	2'-2"	1'-5"		
409	1/2"	12	7'-11"	V	2'-2"	1'-5"		
410	1/2"	12	8'-0"	V	2'-3"	1'-5"		
411	1/2"	12	8'-1"	V	2'-3"	1'-5"		
412	1/2"	12	8'-3"	V	2'-4"	1'-5"		
413	1/2"	12	8'-5"	V	2'-5"	1'-5"		
414	1/2"	12	8'-8"	V	2'-7"	1'-5"		
415	1/2"	12	8'-11"	V	2'-8"	1'-5"		
416	1/2"	12	9'-2"	V	2'-10"	1'-5"		
417	1/2"	12	9'-5"	V	3'-1"	1'-5"		
418	1/2"	12	9'-9"	V	3'-1"	1'-5"		
419	1/2"	12	10'-2"	V	3'-4"	1'-5"		
420	1/2"	12	10'-6"	V	3'-6"	1'-5"		
421	1/2"	12	11'-0"	V	3'-9"	1'-5"		
422	1/2"	12	11'-5"	V	3'-11"	1'-5"		
423	1/2"	12	11'-11"	V	4'-2"	1'-5"		
424	1/2"	12	12'-5"	V	4'-5"	1'-5"		
425	1/2"	12	12'-11"	V	4'-8"	1'-5"		
426	1/2"	12	13'-6"	V	5'-0"	1'-5"		
427	1/2"	12	7'-8"	V	2'-0"	1'-5"		
428	1/2"	12	7'-7"	V	2'-0"	1'-5"		
429	1/2"	12	7'-8"	V	2'-0"	1'-5"		
430	1/2"	12	7'-8"	V	2'-1"	1'-5"		
431	1/2"	12	7'-9"	V	2'-1"	1'-5"		
432	1/2"	12	7'-10"	V	2'-2"	1'-5"		
433	1/2"	12	7'-11"	V	2'-2"	1'-5"		
434	1/2"	12	8'-1"	V	2'-3"	1'-5"		
435	1/2"	12	8'-2"	V	2'-4"	1'-5"		
436	1/2"	12	8'-3"	V	2'-4"	1'-5"		
437	1/2"	12	8'-5"	V	2'-5"	1'-5"		
438	1/2"	12	8'-7"	V	2'-6"	1'-5"		
439	1/2"	12	8'-9"	V	2'-7"	1'-5"		
440	1/2"	12	8'-11"	V	2'-8"	1'-5"		
441	1/2"	12	9'-1"	V	2'-8"	1'-5"		
442	1/2"	12	9'-4"	V	2'-11"	1'-5"		
443	1/2"	12	9'-7"	V	3'-0"	1'-5"		
444	1/2"	12	9'-10"	V	3'-2"	1'-5"		
445	1/2"	12	10'-1"	V	3'-3"	1'-5"		
446	1/2"	12	10'-4"	V	3'-5"	1'-5"		
447	1/2"	12	10'-8"	V	3'-7"	1'-5"		
448	1/2"	12	11'-0"	V	3'-9"	1'-5"		
449	1/2"	12	11'-4"	V	3'-11"	1'-5"		
450	1/2"	12	11'-9"	V	4'-1"	1'-5"		
451	1/2"	12	12'-2"	V	4'-4"	1'-5"		
452	1/2"	12	12'-8"	V	4'-7"	1'-5"		
453	1/2"	12	13'-3"	V	4'-10"	1'-5"		
454	1/2"	12	14'-0"	V	5'-3"	1'-5"		
455	1/2"	12	14'-8"	V	5'-7"	1'-5"		
456	1/2"	6	8'-2"	V	2'-4"	1'-5"		
457	1/2"	6	8'-5"	V	2'-5"	1'-5"		
458	1/2"	6	8'-9"	V	2'-7"	1'-5"		
459	1/2"	6	9'-0"	V	2'-8"	1'-5"		
460	1/2"	6	9'-7"	V	3'-0"	1'-5"		
461	1/2"	6	10'-2"	V	3'-4"	1'-5"		
462	1/2"	6	10'-9"	V	3'-7"	1'-5"		
463	1/2"	6	11'-4"	V	3'-11"	1'-5"		
464	1/2"	6	11'-11"	V	4'-2"	1'-5"		
465	1/2"	6	12'-6"	V	4'-6"	1'-5"		
466	1/2"	6	13'-1"	V	4'-9"	1'-5"		
467	1/2"	6	13'-6"	V	4'-11"	1'-5"		
468	1/2"	6	14'-2"	V	5'-1"	1'-5"		
469	1/2"	6	14'-8"	V	5'-5"	1'-5"		
470	1/2"	6	15'-4"	V	5'-9"	1'-5"		
471	1/2"	6	16'-0"	V	6'-3"	1'-5"		
472	1/2"	6	16'-6"	V	6'-7"	1'-5"		
473	1/2"	6	17'-2"	V	7'-1"	1'-5"		
474	1/2"	6	17'-8"	V	7'-5"	1'-5"		
475	1/2"	6	18'-4"	V	7'-9"	1'-5"		
476	1/2"	6	19'-0"	V	8'-3"	1'-5"		
477	1/2"	6	19'-6"	V	8'-7"	1'-5"		
478	1/2"	6	20'-2"	V	9'-1"	1'-5"		
479	1/2"	6	20'-8"	V	9'-5"	1'-5"		
480	1/2"	6	21'-4"	V	9'-9"	1'-5"		

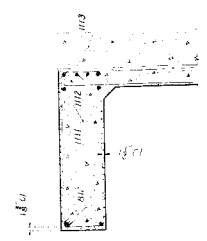
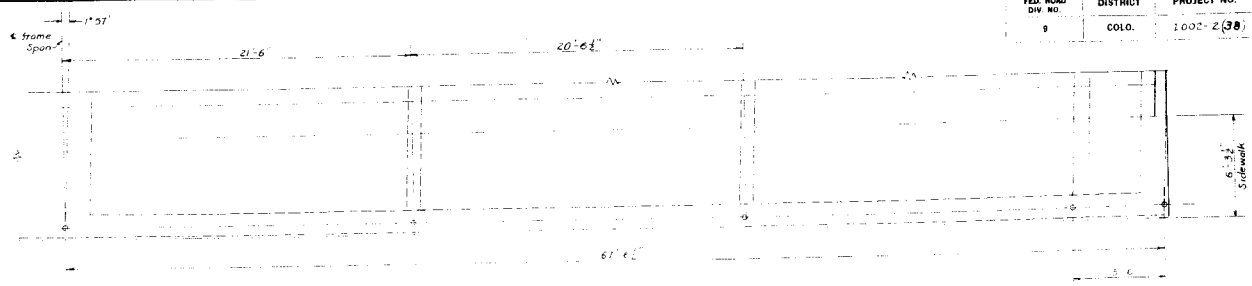
BAR LIST - FRAME (cont)

Mark	Size	No.	Length	Type	Dimensions			
					l	m	n	p
481	1/2"	6	12'-9"	V	4'-7"	1'-5"		
482	1/2"	6	13'-2"	V	4'-10"	1'-5"		
483	1/2"	6	13'-7"	V	5'-0"	1'-5"		
484	1/2"	12	13'-11"	V	5'-2"	1'-5"		
485	1/2"	12	6'-7"	VI	1'-6"	1'-5"		
486	1/2"	4	7'-1"	V	2'-0"	1'-2"		
487	1/2"	4	7'-11"	V	2'-0"	1'-2"		
488	1/2"	4	7'-7"	V	2'-0"	1'-2"		
489	1/2"	4	7'-1"	V	2'-0"	1'-2"		
490	1/2"	4	7'-2"	V	2'-1"	1'-2"		
491	1/2"	4	7'-3"	V	2'-1"	1'-2"		
492	1/2"	4	7'-4"	V	2'-2"	1'-2"		
493	1/2"	4	7'-5"	V	2'-2"	1'-2"		
494	1/2"	4	7'-6"	V	2'-3"	1'-2"		
495	1/2"	4	7'-7"	V	2'-3"	1'-2"		
496	1/2"	4	7'-8"	V	2'-4"	1'-2"		
497	1/2"	4	7'-11"	V	2'-5"	1'-2"		
498	1/2"	4	8'-2"	V	2'-7"	1'-2"		
499	1/2"	4	8'-5"	V	2'-8"	1'-2"		
500	1/2"	4	8'-8"	V	2'-10"	1'-2"		
501	1/2"	4	8'-11"	V	2'-11"	1'-2"		
502	1/2"	4	9'-3"	V	3'-1"	1'-2"		
503	1/2"	4	9'-8"	V	3'-4"	1'-2"		
504	1/2"	4	10'-0"	V	3'-6"	1'-2"		
505	1/2"	4	10'-6"	V	3'-11"	1'-2"		
506	1/2"	4	10'-11"	V	4'-1"	1'-2"		
507	1/2"	4	11'-5"	V	4'-2"	1'-2"		
508	1/2"	4	11'-11"	V	4'-5"	1'-2"		
509	1/2"	4	12'-5"	V	4'-8"	1'-2"		
510	1/2"	4	12'-11"	V	5'-0"	1'-2"		
511	1/2"	4	13'-6"	V	5'-3"	1'-2"		
512	1/2"	4	14'-0"	V	5'-7"	1'-2"		
513	1/2"	4	14'-8"	V	6'-1"	1'-2"		
514	1/2"	4	15'-4"	V	6'-5"	1'-2"		
515	1/2"	4	16'-0"	V	6'-9"	1'-2"		
516	1/2"	4	16'-6"	V	7'-3"	1'-2"		
517	1/2"	4	17'-2"	V	7'-7"	1'-2"		
518	1/2"	4	17'-8"	V	8'-1"	1'-2"		
519	1/2"	4	18'-4"	V	8'-5"	1'-2"		
520	1/2"	4	19'-0"	V	8'-9"	1'-2"		
521	1/2"	4	19'-6"	V	9'-3"	1'-2"		
522	1/2"	4	20'-2"	V	9'-7"	1'-2"		
523	1/2"	4	20'-8"	V	10'-1"	1'-2"		
524	1/2"	4	21'-4"	V	10'-5"	1'-2"		
525	1/2"	4	22'-0"	V	10'-9"	1'-2"		
526	1/2"	4	22'-6"	V	11'-3"	1'-2"		
527	1/2"	4	23'-2"	V	11'-7"	1'-2"		
528	1/2"	4	23'-8"	V	12'-1"	1'-2"		
529	1/2"	4	24'-4"	V	12'-5"	1'-2"		
530	1/2"	4	25'-0"	V	12'-9"	1'-2"		
531	1/2"	4	25'-6"	V	13'-3"	1'-2"		
532	1/2"	4	26'-2"	V	13'-7"	1'-2"		
533	1/2"	4	26'-8"	V	14'-1"	1'-2"		
534	1/2"	4	27'-4"	V	14'-5"	1'-2"		
535	1/2"	4	28'-0"	V	14'-9"	1'-2"		
536	1/2"	4	28'-6"	V	15'-3"	1'-2"		
537	1/2"	4	29'-2"	V	15'-7"	1'-2"		
538	1/2"	4	29'-8"	V	16'-1"	1'-2"		
539	1/2"	4	30'-4"	V	16'-5"	1'-2"		
540	1/2"	4	31'-0"	V	16'-9"	1'-2"		
541	1/2"	4	31'-6"	V	17'-3"	1'-2"		
542	1/2"	4	32'-2"	V	17'-7"	1'-2"		
543	1/2"	4	32'-8"	V	18'-1"	1'-2"		
544	1/2"	4	33'-4"	V	18'-5"	1'-2"		
545	1/2"	4	34'-0"	V	18'-9"	1'-2"		
546	1/2"	4	34'-6"	V	19'-3"	1'-2"		
547	1/2"	4	35'-2"	V	19'-7"	1'-2"		
548	1/2"	4	35'-8"	V	20'-1"	1'-2"		
549	1/2"	4	36'-4"	V	20'-5"	1'-2"		
550	1/2"	4	37'-0"	V	20'-9"	1'-2"		

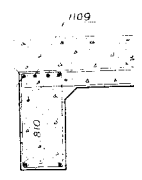
BAR LIST - FRAME (cont)

Mark	Size	No.	Length	Type	Dimensions			
					l	m	n	p
801	1/2"	12	6'-3"	Str.				
802	1/2"	12	30'-0"	Str.				
803	1/2"	12	60'-0"	Str.				
804	1/2"	18	14'-4"	Str.				
805	1/2"	12	18'-0"	Str.				
806	1/2"	12	19'-6"	Str.				
807	1/2"	12	31'-0"	Str.				
808	1/2"	12	60'-0"	Str.				
809	1/2"	12	23'-6"	Str.				
810	1/2"	4	60'-0"	Str.				
811	1/2"	4	23'-3"	Str.				
812	1/2"	4	14'-4"	Str.				
813	1/2"	4	60'-0"	Str.				
901	1/2"	4	27'-6"	Str.				
902	1/2"	2	33'-3"	Str.				
903	1/2"	4	27'-9"	Str.				
904	1/2"	2	34'-3"	Str.				
1001	1/2"	18	19'-2"	II	6'-0"	5'-0"	8'-2 1/2"	
1002	1/2"	12	27'-8"	II	6'-6"	10'-0"	8'-2 1/2"	
1003	1/2"	18	37'-1"	I	13'-6"	14'-10"	8'-9"	
1004	1/2"	12	44'-1"	I	20'-6"	14'-10"	8'-9"	
1005	1/2"	18	24'-9"	Str.				
1006	1/2"	12	37'-3"	Str.				
1007	1/2"	6	60'-0"	Str.				
1008	1/2"	18	24'-9"	Str.				
1009	1/2"	12	38'-3"	Str.				
1010	1/2"	6	60'-0"	Str.				
1011	1/2"	4	25'-8"	II	9'-6"	11'-6"	8'-8"	
1012	1/2"	4	46'-1"	I	16'-0"	20'-11"	9'-2 1/2"	
1013	1/2"	4	50'-7"	I	20'-6"	20'-11"	9'-2 1/2"	
1101	1/2"	12	27'-9"	Str.				
1102	1/2"	12	39'-6"	Str.				

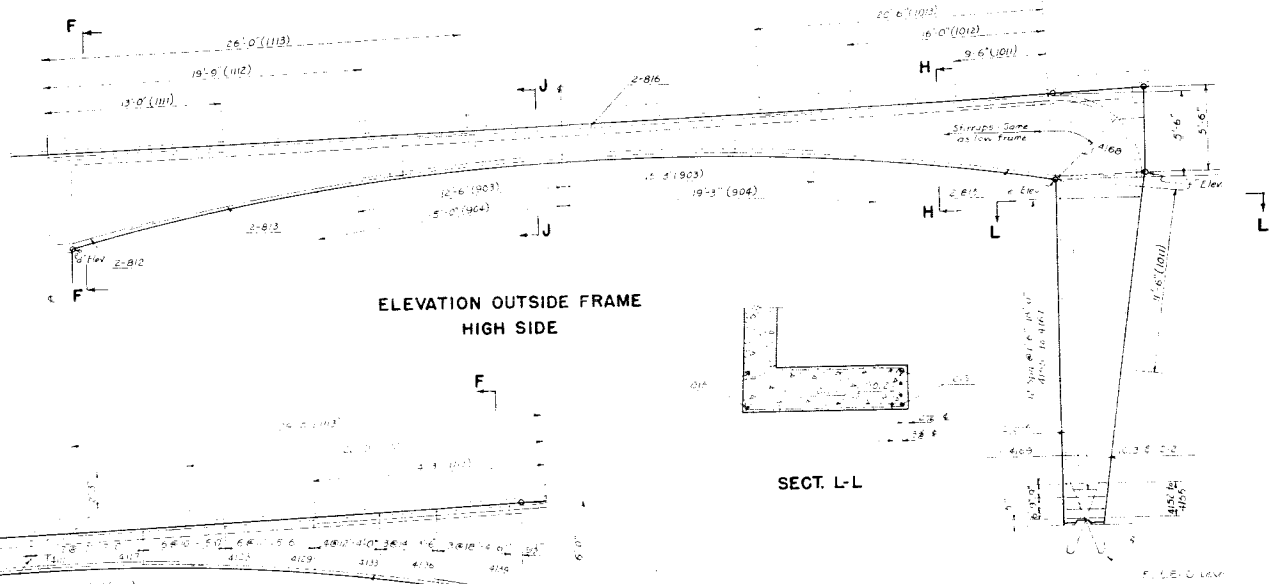
FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1000-2(38)	57	



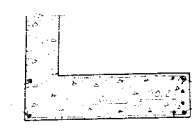
SECT. F-F



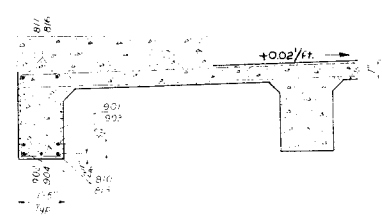
SECT. G-G



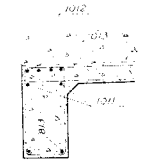
ELEVATION OUTSIDE FRAME HIGH SIDE



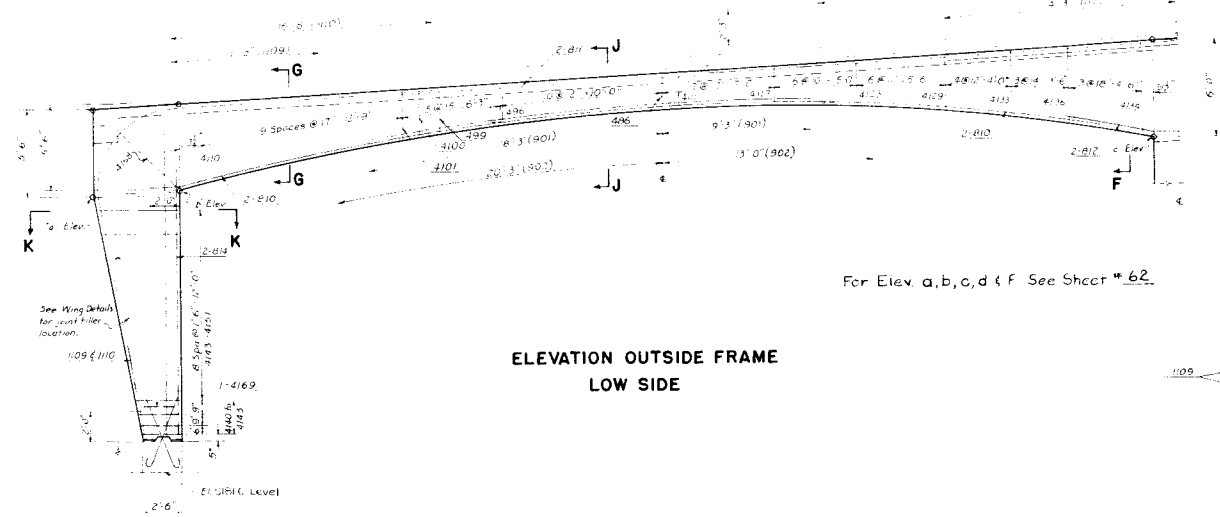
SECT. L-L



SECT. J-J

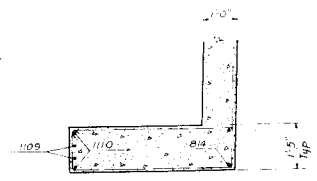


SECT. H-H



ELEVATION OUTSIDE FRAME LOW SIDE

For Elev. a, b, c, d & f See Sheet # 62



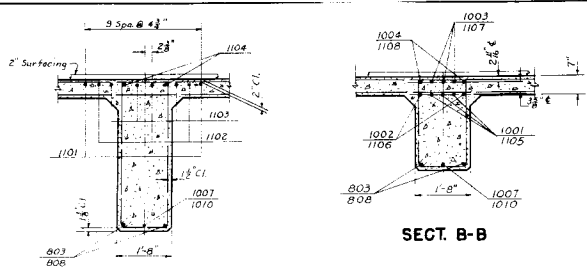
SECT. K-K

COLORADO
 DEPARTMENT OF HIGHWAYS
 2 SPAN 3 & 33-3/4 RIGID FRAME
 CONCRETE BRIDGE
 48'-0" ROADWAY
 DETAILS OF OUTSIDE FRAMES

Under 15th Street
 Sta. 148+47.0
 In Denver Sec. T. R.

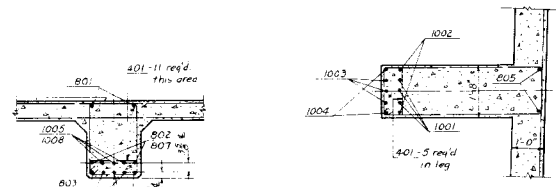
Designed by _____
 Made by G.E.T. Bridge Engineer
 Checked by _____ Date: July 16, 1956

STRUCTURE NO. E-16-EP



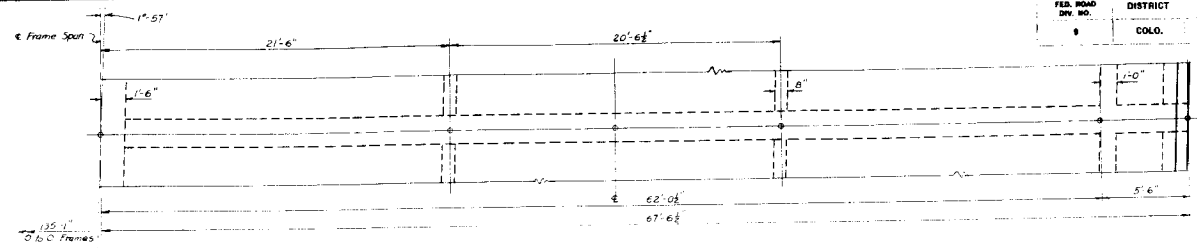
SECT. B-B

SECT. A-A

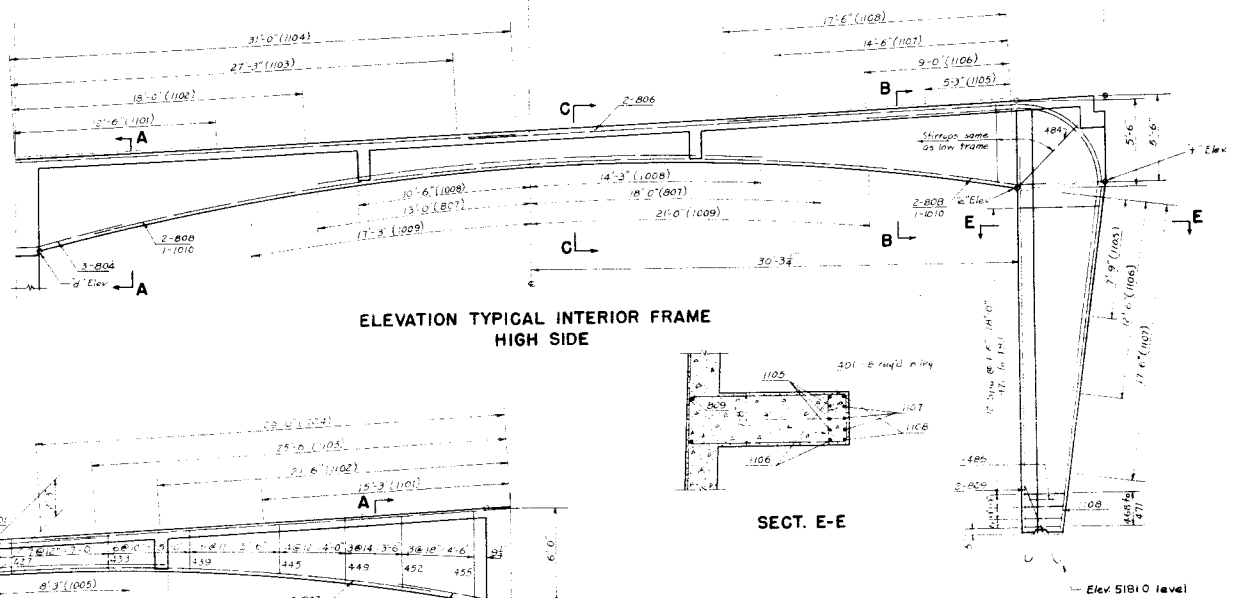


SECT. D-D

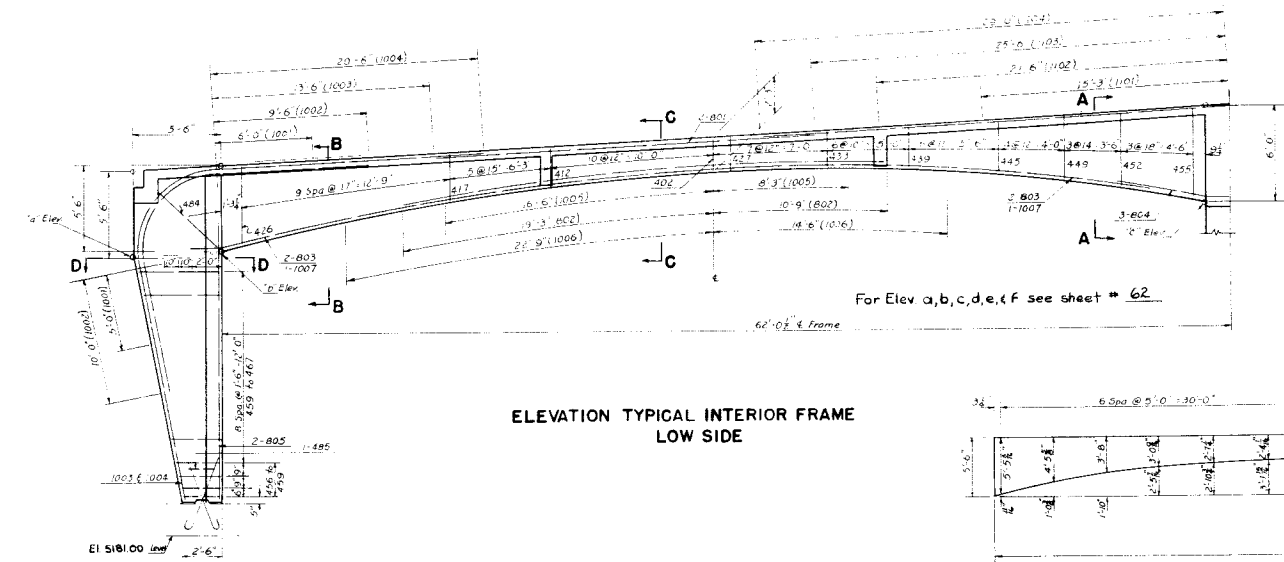
SECT. C-C



ELEVATION TYPICAL INTERIOR FRAME HIGH SIDE



SECT. E-E



ELEVATION TYPICAL INTERIOR FRAME LOW SIDE

For Elev a,b,c,d,e,f see sheet # 62

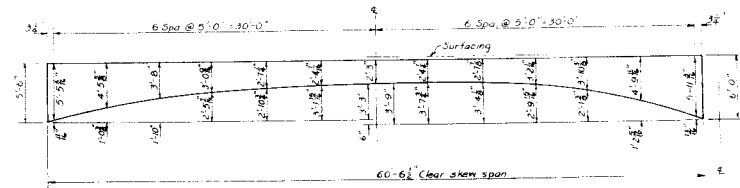


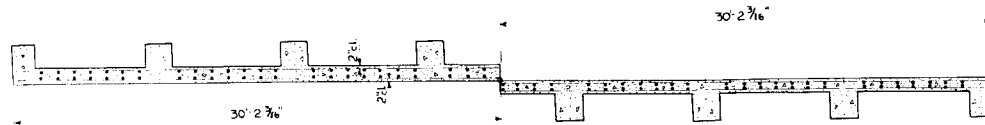
DIAGRAM FRAME DEPTHS

COLORADO
 DEPARTMENT OF HIGHWAYS
 2 SPANS @ 63'-3 1/2" RIGID FRAME
 CONCRETE BRIDGE
 48'-0" ROADWAY
 DETAILS OF INTERIOR FRAMES

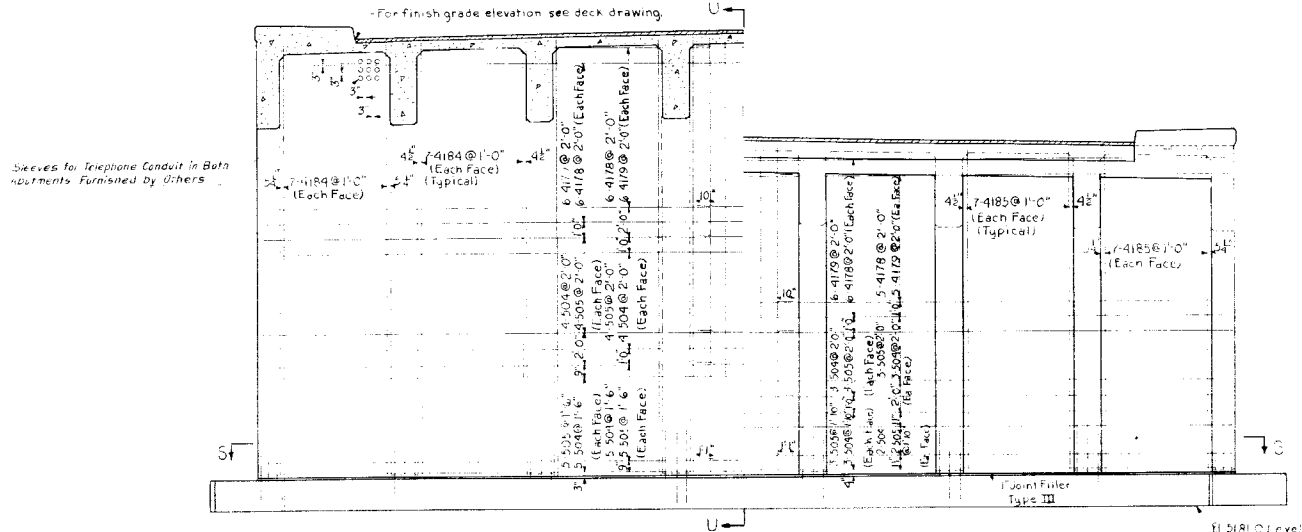
Under 15th Street
 Sta. 448+47.0

Designed by E.E.
 Made by S.E.T.
 Checked by

Approved by *[Signature]*
 Bridge Engineer
 Date: July 16, 1936

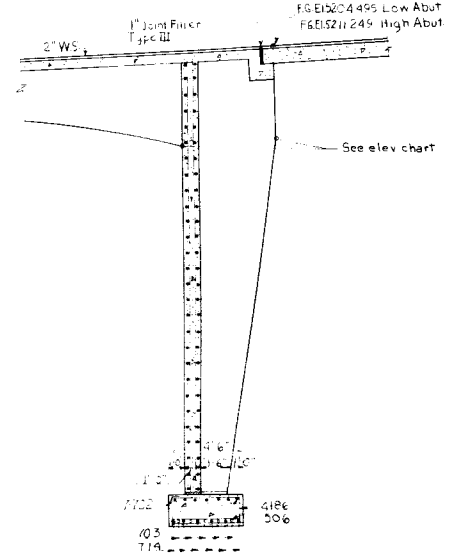


SECTION S-S

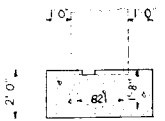


HALF ELEVATION HIGH ABUTMENT (LOOKING AHEAD)

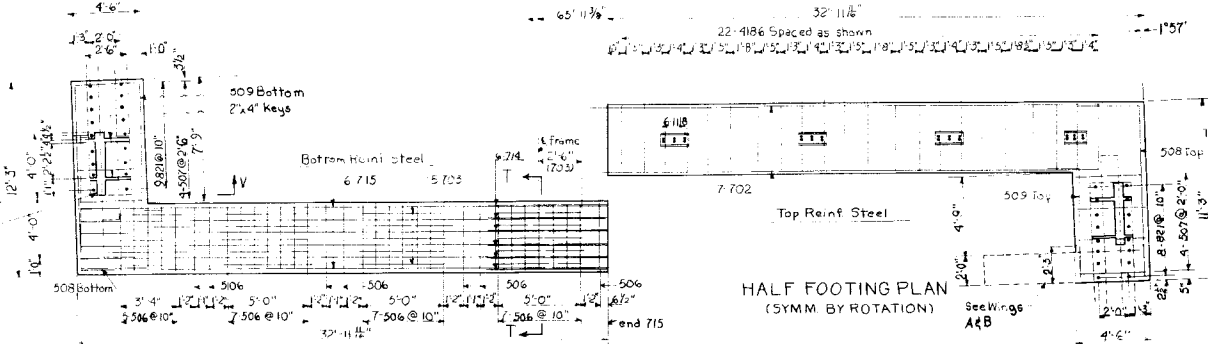
HALF ELEVATION LOW ABUTMENT (LOOKING AHEAD)



SECTION U-U

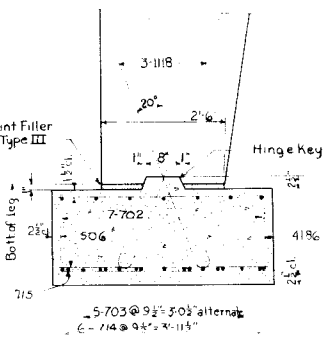


SECTION V-V



HALF FOOTING PLAN (SYMM. BY ROTATION)

HALF FOOTING PLAN (SYMM. BY ROTATION) (except bar splices)



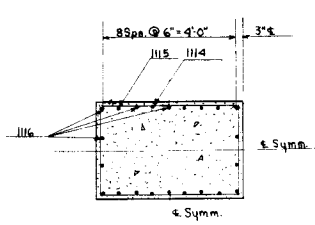
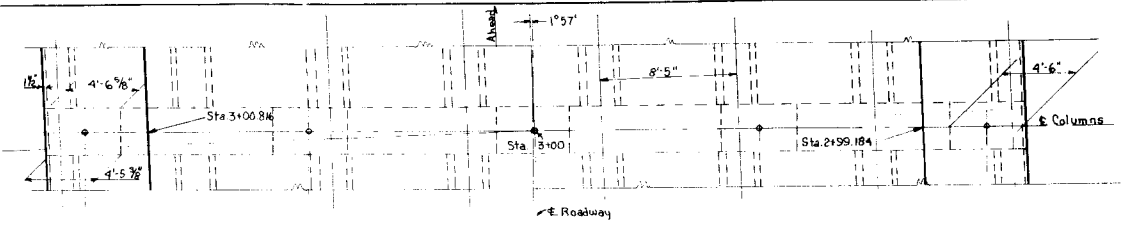
SECTION T-T

STRUCTURE NO. E-16-E.P

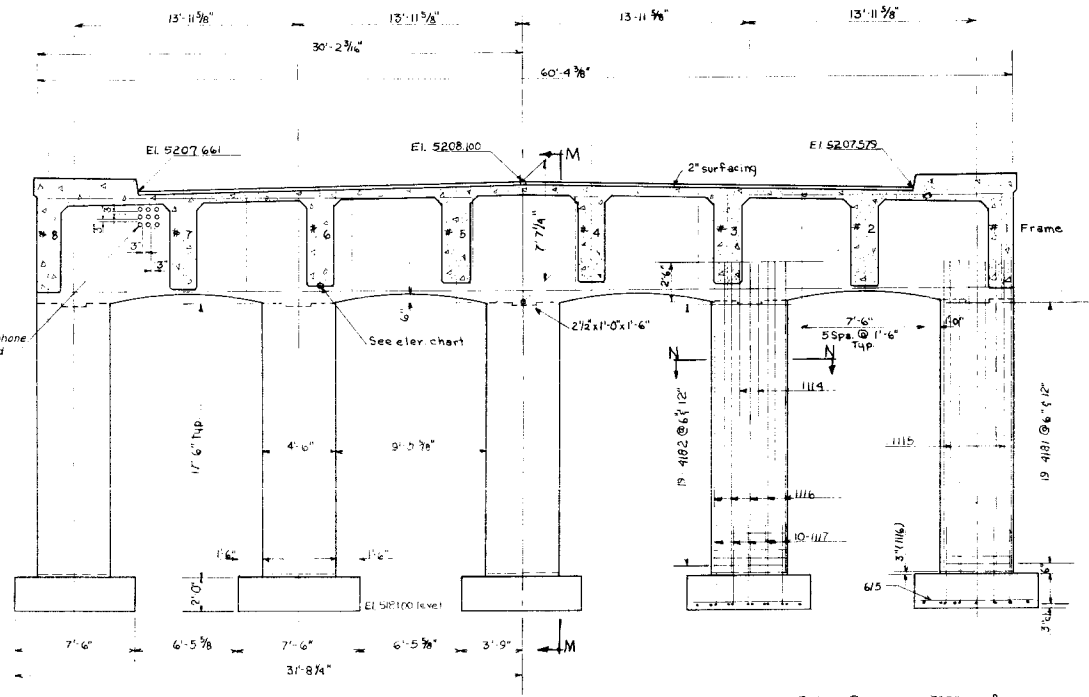
COLORADO
 DEPARTMENT OF HIGHWAYS
 2-SPANS @ 63'-3 1/2' RIGID FRAME
 CONCRETE BRIDGE 48'-0" ROWY.
 42'-6"-3 1/2" SIDEWALKS 1'-5" SKEW
 BREASTWALLS & FOOTING DETAILS

Under 15th Street
 Sta. 148+47.0

Designed by G.E.T. Approved by D.J. [Signature]
 Made by D.K.J. Bridge Engineer
 Checked by [Signature] Date: 10/26/1956

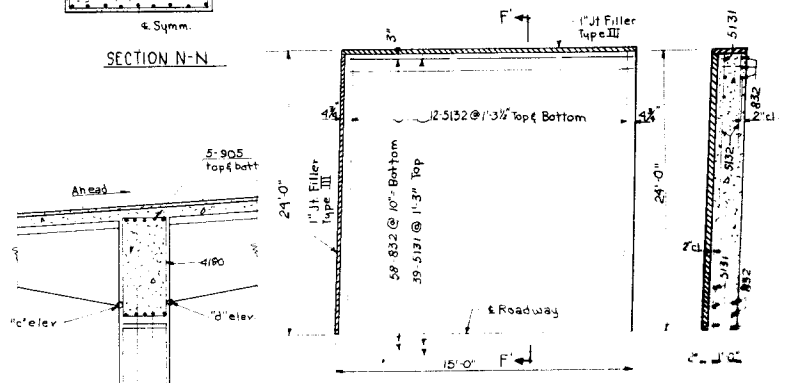


SECTION N-N



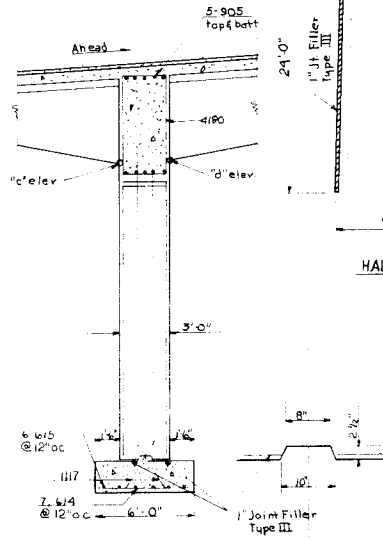
ELEVATION
(looking ahead)

Footing Pressure = 7000 p.s.f



HALF PLAN APPROACH SLAB

SECTION F-F



SECTION M-M

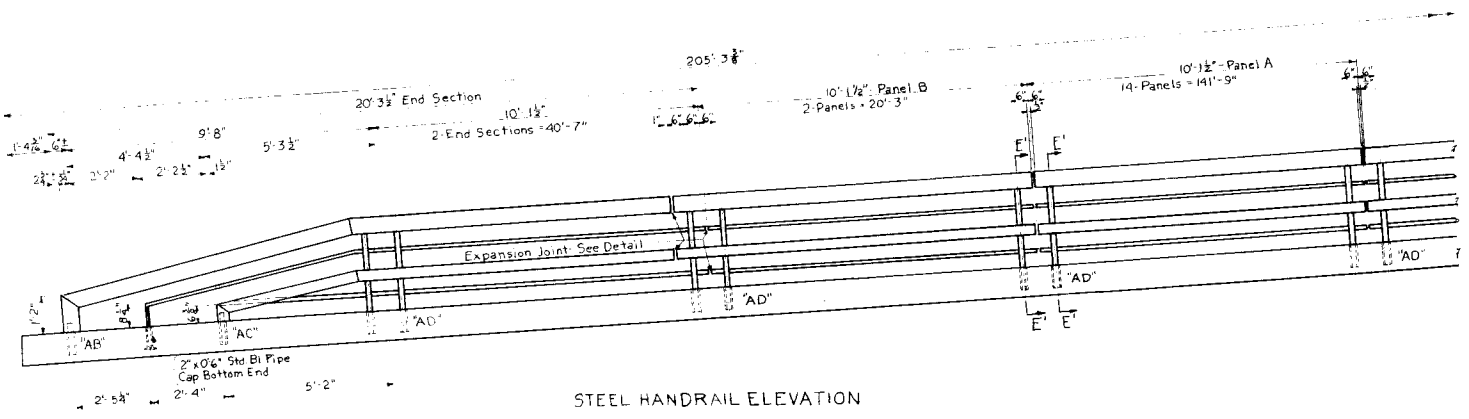
ELEV INTERSECTION INTRADOS TO ABUT & PIER						
ELEV	"a"	"b"	"c"	"d"	"e"	"f"
Frame #1	98.182	98.494	1.219	1.369	4.710	4.953
#2	98.367	98.678	1.402	1.552	4.891	5.133
#3	98.551	98.862	1.584	1.734	5.071	5.313
#4	98.736	99.047	1.767	1.917	5.252	5.492
#5	98.752	99.063	1.781	1.931	5.265	5.504
#6	98.600	98.911	1.627	1.777	5.109	5.348
#7	98.448	98.758	1.473	1.623	4.953	5.192
#8	98.296	98.606	1.319	1.469	4.797	5.037

COLORADO
 DEPARTMENT OF HIGHWAYS
 25 SPANS @ 63'-3/2" RIGID FRAME
 CONCRETE BRIDGE
 48'-0" ROADWAY
 DETAILS OF PIER

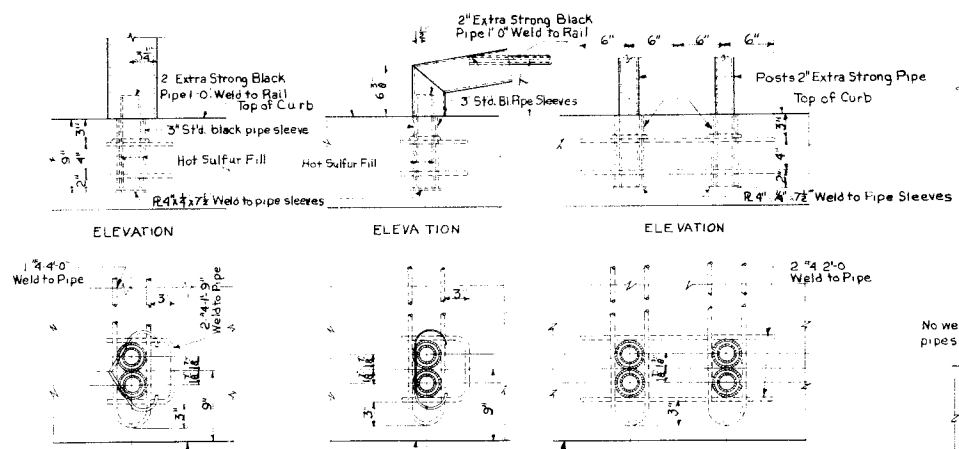
Under 15th Street
 Sta 148+77.0

Designed by G.E.T.
 Made by G.E.T.
 Checked by

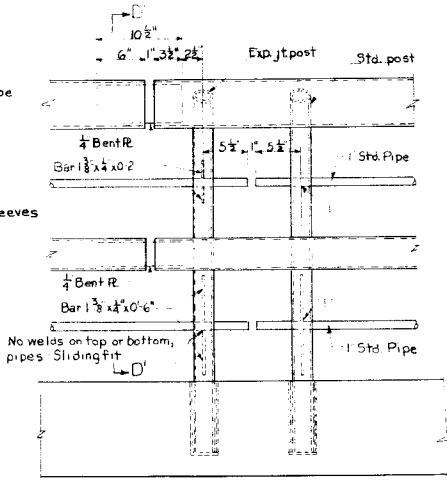
Approved by [Signature]
 Bridge Engineer
 Date: July 10, 1956



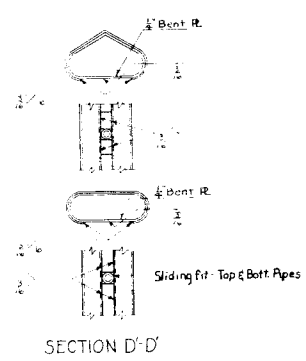
STEEL HANDRAIL ELEVATION



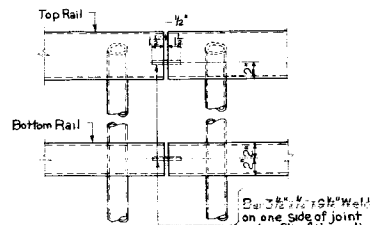
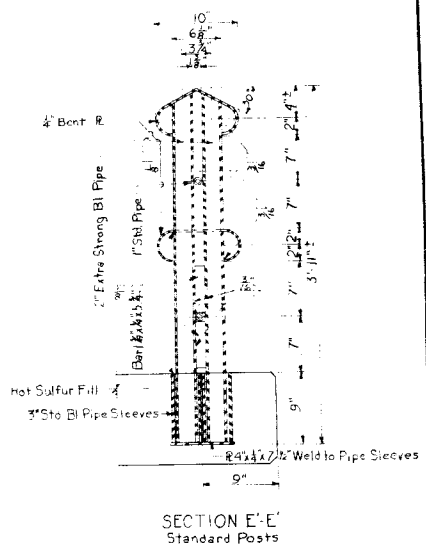
SOCKET ANCHORAGE DETAILS



TELESCOPING EXPANSION JOINT



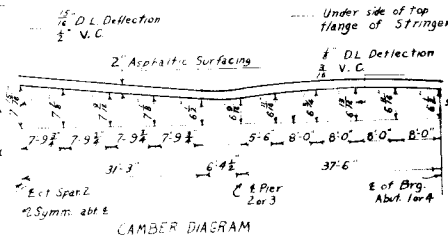
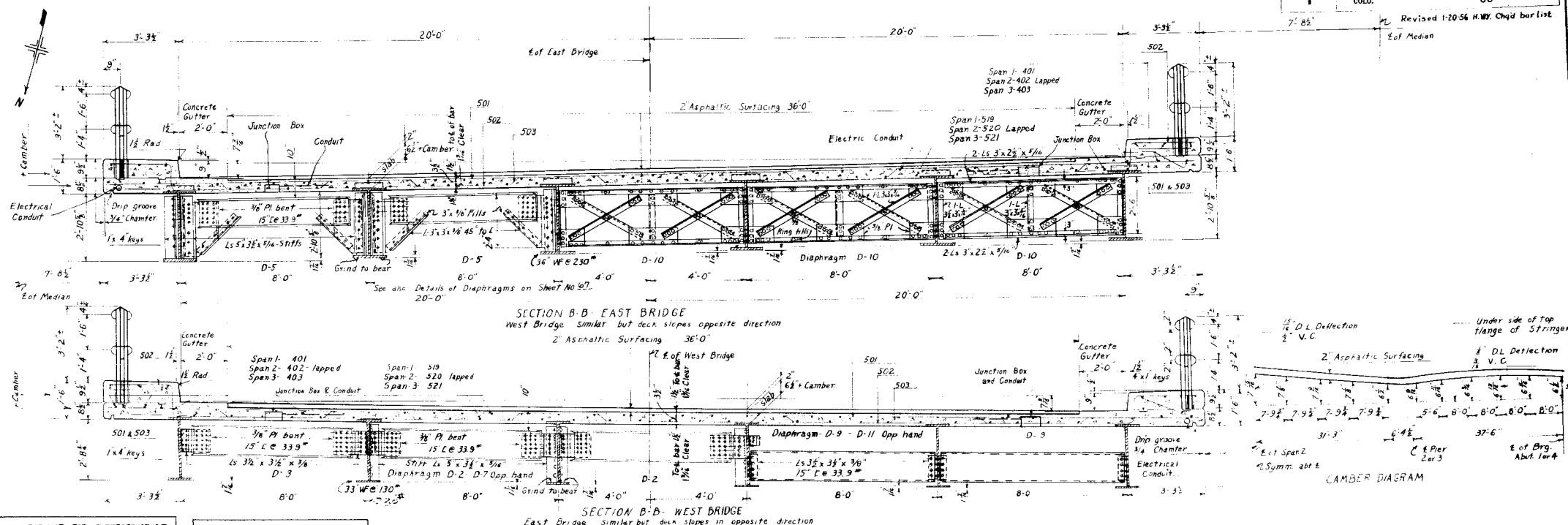
SECTION D-D



TYPICAL JOINT

To be used at all 1/2\"/>

COLORADO
 DEPARTMENT OF HIGHWAYS
 2 SPANS @ 63' 3 1/2" RIGID FRAME
 CONCRETE BRIDGE 48' 0" ROWY
 @ 2' 6" 33" SIDEWALKS 1' 57" KEW
 HANDRAIL DETAILS
 Under 15th Street
 Sta. 188+47.0.
 In Denver Sec. T. R.
 Designed by G.E.T. Approved by E.L. *[Signature]*
 Made by D.K.J. Bridge Engineer
 Checked by Date: July 16, 1956



BAR LIST FOR SUPERSTRUCTURE FOR STR. F-16-DX

Mark	Size	No. Req'd.	Length	Type	Dimensions
					L x W
501	3/8"	126	48'-0"	Str.	21'-0" x 2'-11"
502	3/8"	126	50'-0"	Str.	4'-10"
503	3/8"	125	48'-10"	II	4'-10"
504	3/8"	125	48'-10"	II	4'-10"
505	3/8"	125	48'-10"	II	4'-10"
506	3/8"	125	48'-10"	II	4'-10"
507	3/8"	125	48'-10"	II	4'-10"
508	3/8"	125	48'-10"	II	4'-10"
509	3/8"	125	48'-10"	II	4'-10"
510	3/8"	125	48'-10"	II	4'-10"
511	3/8"	125	48'-10"	II	4'-10"
512	3/8"	125	48'-10"	II	4'-10"
513	3/8"	125	48'-10"	II	4'-10"
514	3/8"	125	48'-10"	II	4'-10"
515	3/8"	125	48'-10"	II	4'-10"
516	3/8"	125	48'-10"	II	4'-10"
517	3/8"	125	48'-10"	II	4'-10"
518	3/8"	125	48'-10"	II	4'-10"
519	3/8"	125	48'-10"	II	4'-10"
520	3/8"	125	48'-10"	II	4'-10"
521	3/8"	125	48'-10"	II	4'-10"
522	3/8"	125	48'-10"	II	4'-10"
523	3/8"	125	48'-10"	II	4'-10"
524	3/8"	125	48'-10"	II	4'-10"
525	3/8"	125	48'-10"	II	4'-10"
526	3/8"	125	48'-10"	II	4'-10"
527	3/8"	125	48'-10"	II	4'-10"
528	3/8"	125	48'-10"	II	4'-10"
529	3/8"	125	48'-10"	II	4'-10"
530	3/8"	125	48'-10"	II	4'-10"
531	3/8"	125	48'-10"	II	4'-10"
532	3/8"	125	48'-10"	II	4'-10"
533	3/8"	125	48'-10"	II	4'-10"
534	3/8"	125	48'-10"	II	4'-10"
535	3/8"	125	48'-10"	II	4'-10"
536	3/8"	125	48'-10"	II	4'-10"
537	3/8"	125	48'-10"	II	4'-10"
538	3/8"	125	48'-10"	II	4'-10"
539	3/8"	125	48'-10"	II	4'-10"
540	3/8"	125	48'-10"	II	4'-10"
541	3/8"	125	48'-10"	II	4'-10"
542	3/8"	125	48'-10"	II	4'-10"
543	3/8"	125	48'-10"	II	4'-10"
544	3/8"	125	48'-10"	II	4'-10"
545	3/8"	125	48'-10"	II	4'-10"
546	3/8"	125	48'-10"	II	4'-10"
547	3/8"	125	48'-10"	II	4'-10"
548	3/8"	125	48'-10"	II	4'-10"
549	3/8"	125	48'-10"	II	4'-10"
550	3/8"	125	48'-10"	II	4'-10"
551	3/8"	125	48'-10"	II	4'-10"
552	3/8"	125	48'-10"	II	4'-10"
553	3/8"	125	48'-10"	II	4'-10"
554	3/8"	125	48'-10"	II	4'-10"
555	3/8"	125	48'-10"	II	4'-10"
556	3/8"	125	48'-10"	II	4'-10"
557	3/8"	125	48'-10"	II	4'-10"
558	3/8"	125	48'-10"	II	4'-10"
559	3/8"	125	48'-10"	II	4'-10"
560	3/8"	125	48'-10"	II	4'-10"
561	3/8"	125	48'-10"	II	4'-10"
562	3/8"	125	48'-10"	II	4'-10"
563	3/8"	125	48'-10"	II	4'-10"
564	3/8"	125	48'-10"	II	4'-10"
565	3/8"	125	48'-10"	II	4'-10"
566	3/8"	125	48'-10"	II	4'-10"
567	3/8"	125	48'-10"	II	4'-10"
568	3/8"	125	48'-10"	II	4'-10"
569	3/8"	125	48'-10"	II	4'-10"
570	3/8"	125	48'-10"	II	4'-10"
571	3/8"	125	48'-10"	II	4'-10"
572	3/8"	125	48'-10"	II	4'-10"
573	3/8"	125	48'-10"	II	4'-10"
574	3/8"	125	48'-10"	II	4'-10"
575	3/8"	125	48'-10"	II	4'-10"
576	3/8"	125	48'-10"	II	4'-10"
577	3/8"	125	48'-10"	II	4'-10"
578	3/8"	125	48'-10"	II	4'-10"
579	3/8"	125	48'-10"	II	4'-10"
580	3/8"	125	48'-10"	II	4'-10"
581	3/8"	125	48'-10"	II	4'-10"
582	3/8"	125	48'-10"	II	4'-10"
583	3/8"	125	48'-10"	II	4'-10"
584	3/8"	125	48'-10"	II	4'-10"
585	3/8"	125	48'-10"	II	4'-10"
586	3/8"	125	48'-10"	II	4'-10"
587	3/8"	125	48'-10"	II	4'-10"
588	3/8"	125	48'-10"	II	4'-10"
589	3/8"	125	48'-10"	II	4'-10"
590	3/8"	125	48'-10"	II	4'-10"
591	3/8"	125	48'-10"	II	4'-10"
592	3/8"	125	48'-10"	II	4'-10"
593	3/8"	125	48'-10"	II	4'-10"
594	3/8"	125	48'-10"	II	4'-10"
595	3/8"	125	48'-10"	II	4'-10"
596	3/8"	125	48'-10"	II	4'-10"
597	3/8"	125	48'-10"	II	4'-10"
598	3/8"	125	48'-10"	II	4'-10"
599	3/8"	125	48'-10"	II	4'-10"
600	3/8"	125	48'-10"	II	4'-10"

BAR LIST FOR ONE APPROACH SLAB (4 Required)

Mark	Size	No. Req'd.	Length	Type	Dimensions
					L x W
404	1/2"	3	15'-2"	Str.	
405	1/2"	3	13'-6"	Str.	
406	1/2"	21	5'-4"	Str.	3'-0" x 1'-5"
522	3/8"	125	48'-10"	II	4'-10"
506	3/8"	125	48'-10"	II	4'-10"
535	3/8"	125	48'-10"	II	4'-10"
536	3/8"	125	48'-10"	II	4'-10"
537	3/8"	125	48'-10"	II	4'-10"

Bar Summary for Approach Slab (4 Req'd)

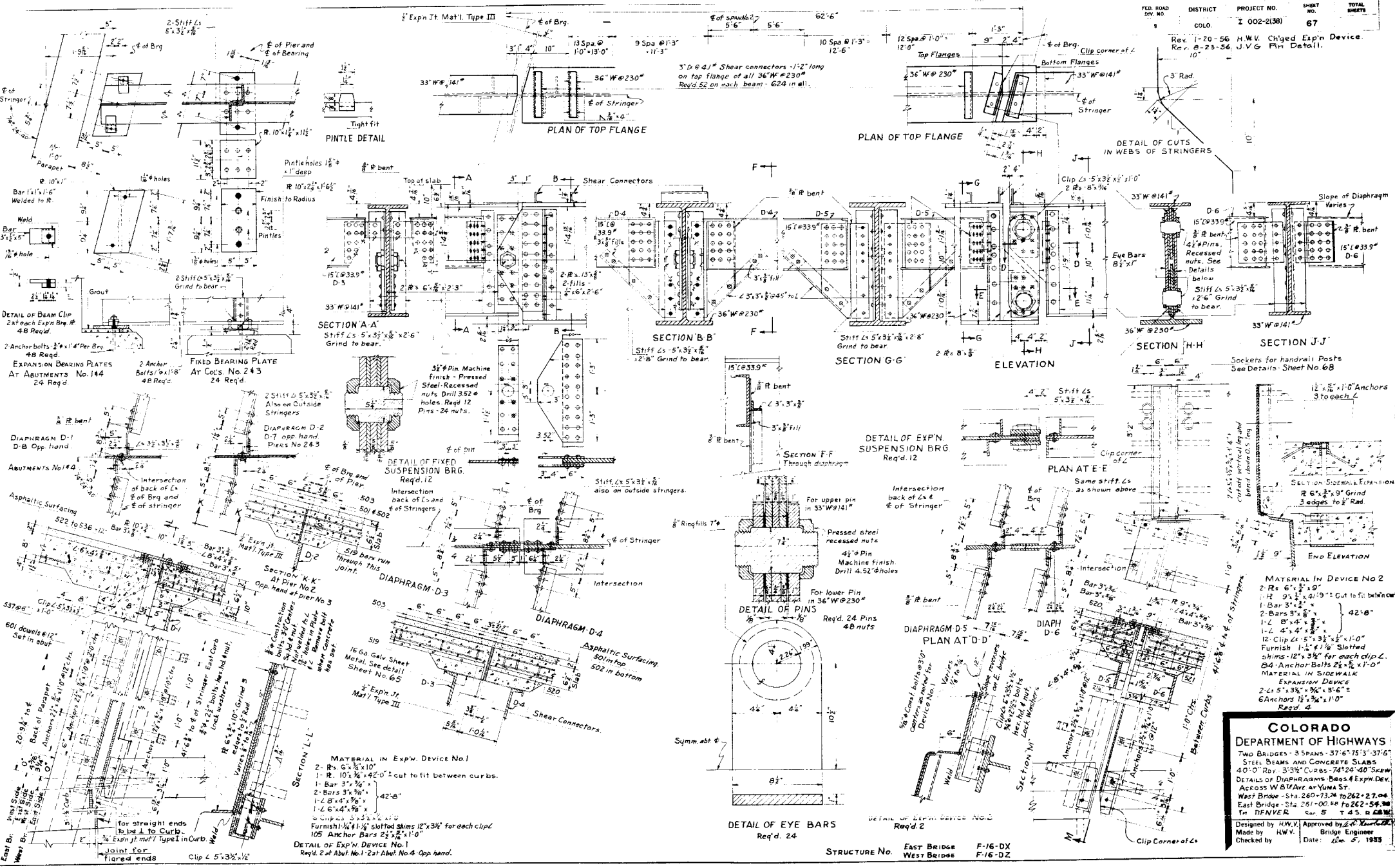
202 Lin Ft. 1/2" Bars @ 0.688 lbs per lin ft. = 139 lbs
 2129 " 3/8" " @ 1.043 " " = 2221 lbs
 1% Overrun = 24.1 lbs
 Total = 2380 lbs

Bar Summary for Superstructure

320 Lin Ft. 1/2" Bars @ 0.688 lbs per lin ft. = 219 lbs
 3103 " 3/8" " @ 1.043 " " = 3235 lbs
 1% Overrun = 34 lbs
 Total = 3350 lbs

BAR LIST FOR PIER No. 2 FOR STR. F-16-DX AND F-16-DZ

Mark	Size	No. Req'd.	Length	Type	Dimensions
					L x W
441	1/2"	316	10'-1"	VIII	2'-11/2" x 1'-9"
442	1/2"	316	7'-5"	VIII	1'-8" x 1'-8"
456	1/2"	18	9'-9"	IX	1'-8" x 1'-8"
611	3/8"	18	12'-10"	IX	2'-3" x 2'-3"
612	3/8"	18	8'-0"	Str.	
613	3/8"	24	11'-8"	Str.	
614	3/8"	48	19'-8"	Str.	
615	3/8"	24	21'-0"	Str.	
601	1/2"	4	36'-0"	Str.	
602	1/2"	4	36'-0"	Str.	
603	1/2"	4	36'-0"	Str.	
604	1/2"	4	36'-0"	Str.	
605	1/2"	4	36'-0"	Str.	
606	1/2"	4	36'-0"	Str.	
607	1/2"	4	36'-0"	Str.	
608	1/2"	4	36'-0"	Str.	
609	1/2"	4	36'-0"	Str.	
610	1/2"	4	36'-0"	Str.	
611	1/2"	4	36'-0"	Str.	
612	1/2"	4	36'-0"	Str.	
613	1/2"	4	36'-0"	Str.	
614	1/2"	4	36'-0"	Str.	
615	1/2"	4	36'-0"	Str.	
616	1/2"	4	36'-0"	Str.	
617	1/2"	4	36'-0"	Str.	
618	1/2"	4	36'-0"	Str.	
619	1/2"	4	36'-0"	Str.	
620	1/2"	4	36'-0"	Str.	
621	1/2"	4	36'-0"	Str.	
622	1/2"	4	36'-0"	Str.	
623	1/2"	4	36'-0"	Str.	
624	1/2"	4	36'-0"	Str.	
625	1/2"	4	36'-0"	Str.	
626	1/2"	4	36'-0"	Str.	
627	1/2"	4	36'-0"	Str.	
628	1/2"	4	36'-0"	Str.	
629	1/2"	4	36'-0"	Str.	
630	1/2"	4	36'-0"	Str.	
631	1/2"	4	36'-0"	Str.	
632	1/2"	4	36'-0"	Str.	
633	1/2"	4	36'-0"	Str.	
634	1/2"	4	36'-0"	Str.	
635	1/2"	4	36'-0"	Str.	
636	1/2"	4	36'-0"	Str.	
637	1/2"	4	36'-0"	Str.	
638	1/2"	4	36'-0"	Str.	
639	1/2"	4	36'-0"	Str.	
640	1/2"	4	36'-0"	Str.	
641	1/2"	4	36'-0"	Str.	
642	1/2"	4	36'-0"	Str.	
643	1/2"	4	36'-0"	Str.	
644	1/2"	4	36'-0"	Str.	
645	1/2"	4	36'-0"	Str.	
646	1/2"	4	36'-0"	Str.	
647	1/2"	4	36'-0"	Str.	
648	1/2"	4	36'-0"	Str.	
649	1/2"	4	36'-0"	Str.	
650	1/2"	4	36'-0"	Str.	
651	1/2"	4	36'-0"	Str.	
652	1/2"	4	36'-0"	Str.	
653	1/2"	4	36'-0"	Str.	
654	1/2"	4	36'-0"	Str.	
655	1/2"	4	36'-0"	Str.	
656	1/2"	4	36'-0"	Str.	
657	1/2"	4	36'-0"	Str.	
658	1/2"	4	36'-0"	Str.	
659	1/2"	4	36'-0"	Str.	
660	1/2"	4	36'-0"	Str.	
661	1/2"	4	36'-0"	Str.	
662	1/2"	4	36'-0"	Str.	
663	1/2"	4	36'-0"	Str.	
664	1/2"	4	36'-0"	Str.	
665	1/2"	4	36'-0"	Str.	
666	1/2"	4	36'-0"	Str.	
667	1/2"	4	36'-0"	Str.	
668	1/2"	4	36'-0"	Str.	
669	1/2"	4	36'-0"	Str.	
670	1/2"	4	36'-0"	Str.	
671	1/2"	4	36'-0"	Str.	
672	1/2"	4	36'-0"	Str.	
673	1/2"	4	36'-0"	Str.	
674	1/2"	4	36'-0"	Str.	
675	1/2"	4	36'-0"	Str.	
676	1/2"	4			

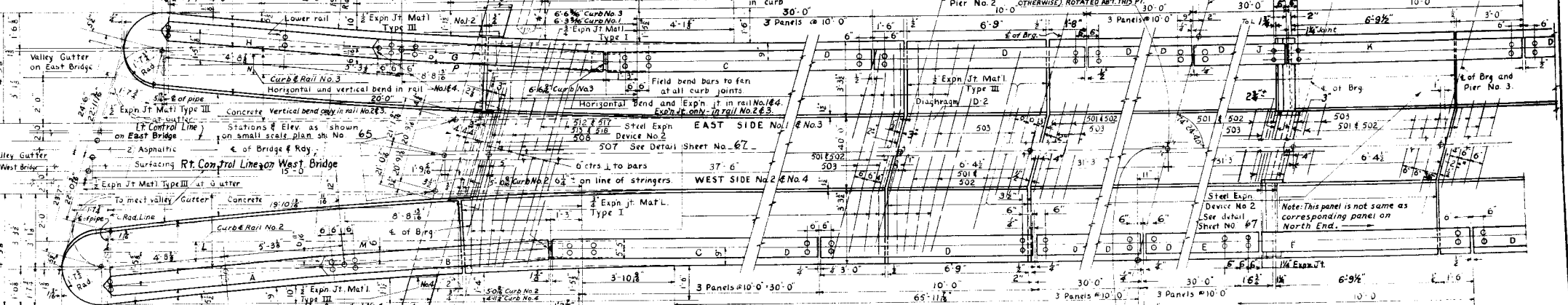


MATERIAL IN DEVICE NO 2
 2- R's 6" x 3" x 1/2"
 1- Bar 3" x 3/8"
 2- Bars 3" x 3/8"
 1- L 2" x 4" x 3/8"
 1- L 2" x 4" x 3/8"
 12- Clip 2 1/2" x 3 1/2" x 1/2"
 Furnish 1 1/2" x 3 1/2" x 1/2" Slotted shims - 12" x 3 1/2" for each clip.
 64- Anchor Bolts 2 1/2" x 1'-0"
MATERIAL IN SIDEWALK EXPANSION DEVICE
 2- L's 5" x 3 1/2" x 3/8"
 6- Anchor Bolts 1 1/2" x 1'-0"
 Req'd 4

COLORADO DEPARTMENT OF HIGHWAYS
 TWO BRIDGES - 3 SPANS - 37'-6" x 75'-3" x 37'-6"
 STEEL BEAMS AND CONCRETE SLABS
 40'-0" ROY. 3 1/2" CURBS - 74'20" x 40" SKEW
 DETAILS OF DIAPHRAGMS, BEAMS & EXP'N DEV.
 ACROSS WYBANE AT BRNS ST.
 WEST BRIDGE - STA 260+13.00 TO 262+27.00
 EAST BRIDGE - STA 261+00.58 TO 262+54.00
 IN DENVER - SW 5 T 45 S R 68 W

Designed by H.W.V. Approved by [Signature]
 Made by H.W.V. Bridge Engineer
 Checked by [Signature] Date: Jan 5, 1935

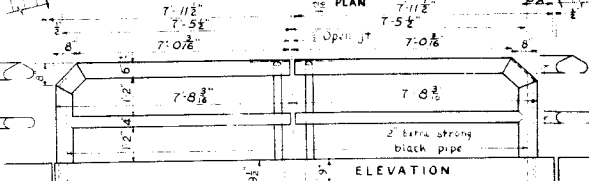
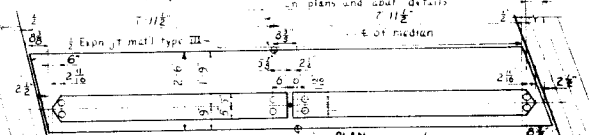
STRUCTURE No. EAST BRIDGE F-16-DX
 WEST BRIDGE F-16-DZ



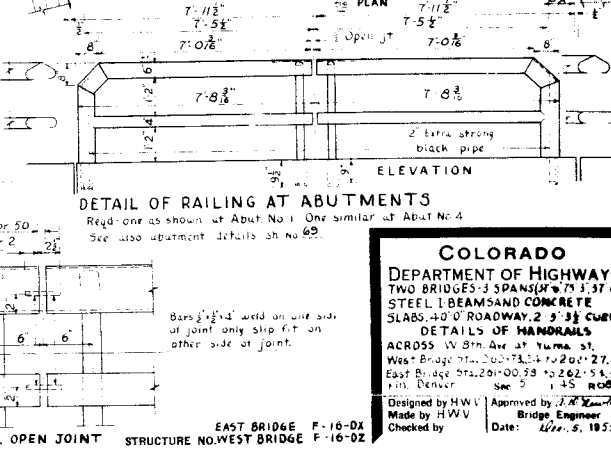
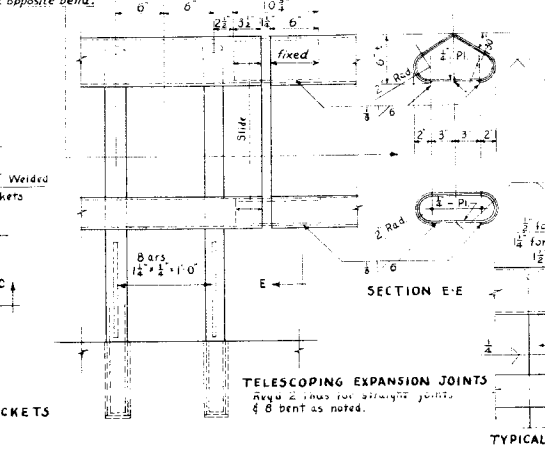
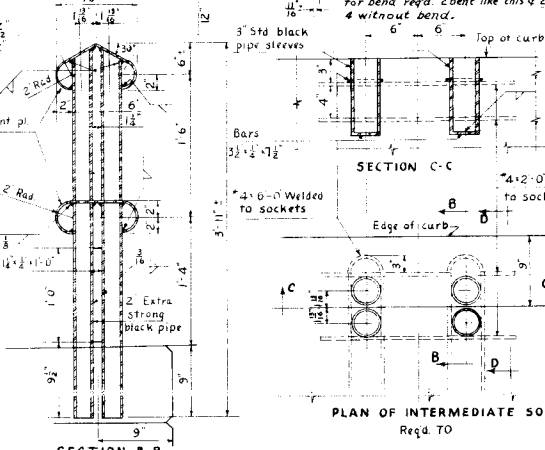
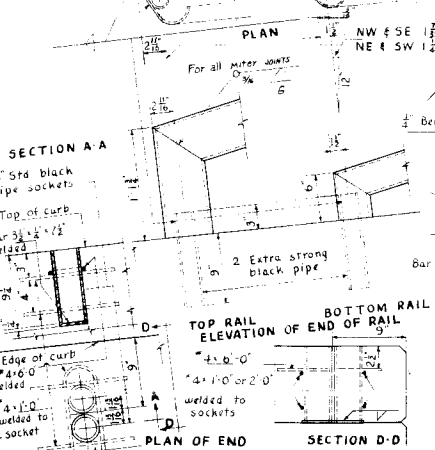
DETAIL PLAN OF NORTH END OF CURB & RAILING No. 1 & No. 3 and No. 2 & No. 4
 SOUTH END OF No. 2 & No. 4 ARE SIMILAR TO NORTH END OF No. 2 & No. 4
 (EXCEPT AS SHOWN OTHERWISE) ROTATED ABOUT THIS POINT -
 See Also Dimensions on Small Scale Plans - Sheet No. 65

Note: Posts to be vertical & Rails parallel to curb.
 No. 3 | Panel M
 No. 1 | Panel B
 No. 4 | Panel G
 No. 2 | Panel P
 No. 1 | Panel A
 No. 4 | Panel L
 No. 2 | Panel H
 9'-11 1/2" (10'-0" on E of Rail)
 9'-11 1/2" (10'-0" on E of Rail)
 Note: Posts to be vertical & Rails parallel to curb.
 For all miter joints

ELEVATION OF HANDRAIL WEST BRIDGE - EAST BRIDGE SIMILAR



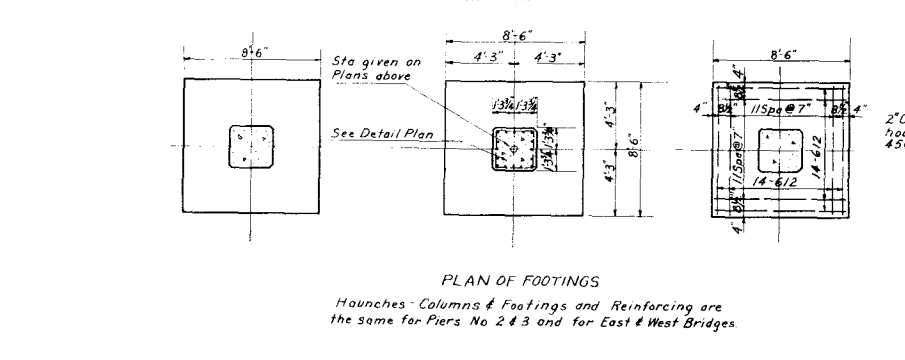
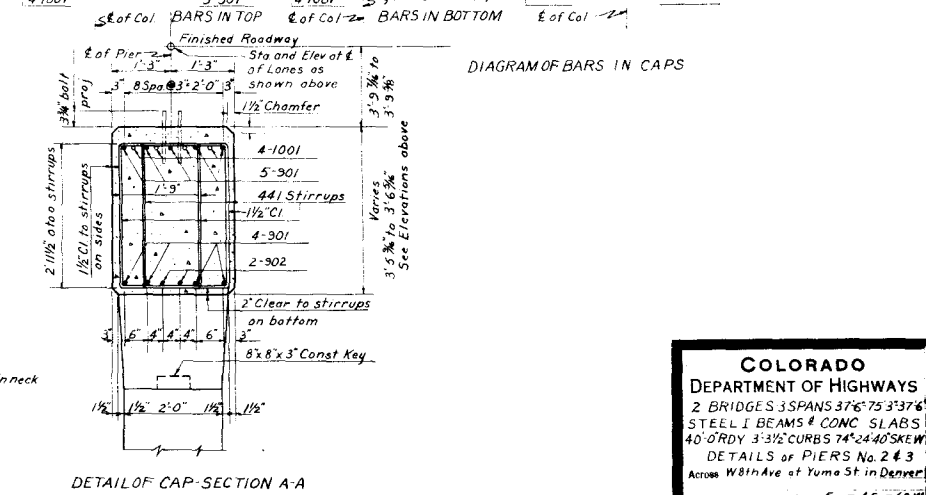
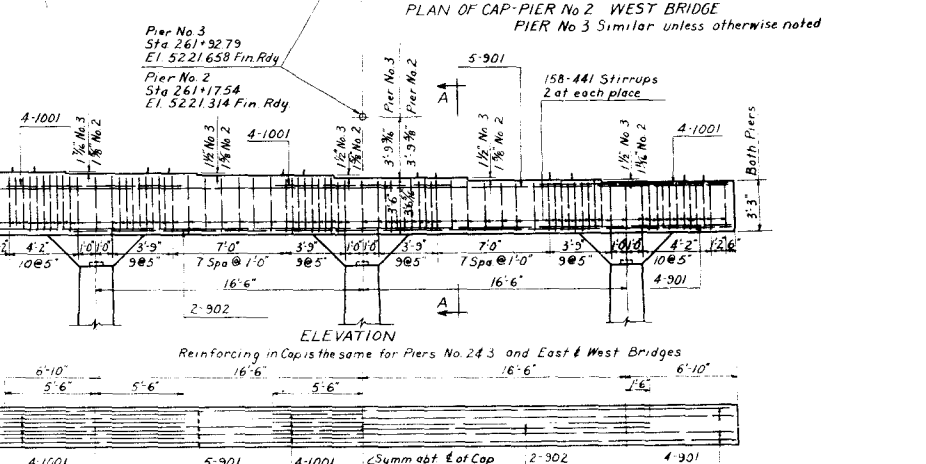
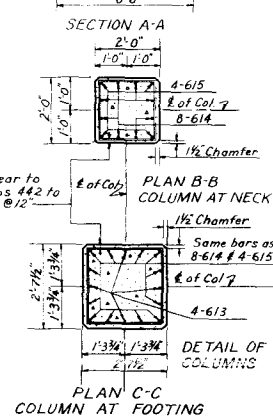
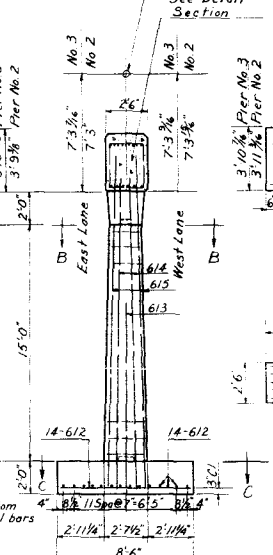
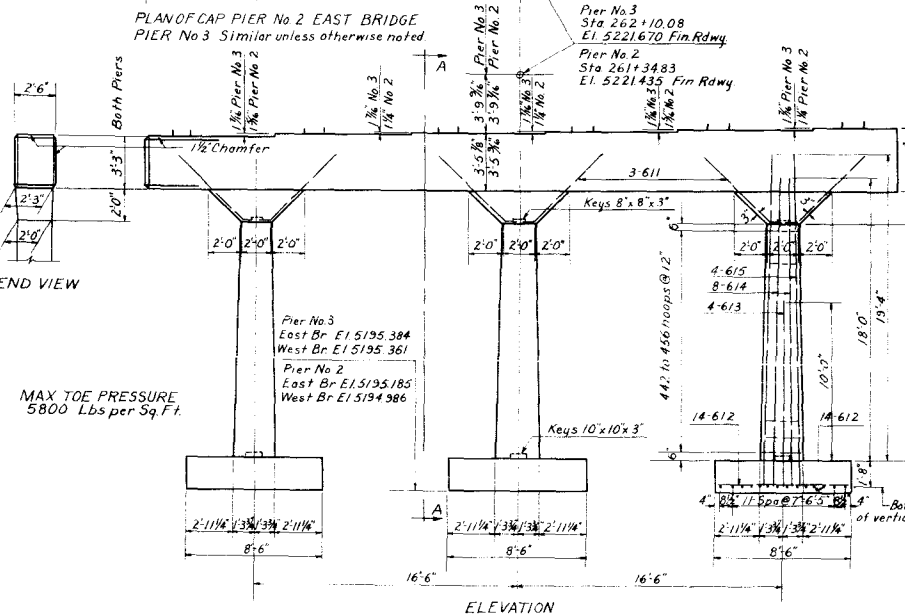
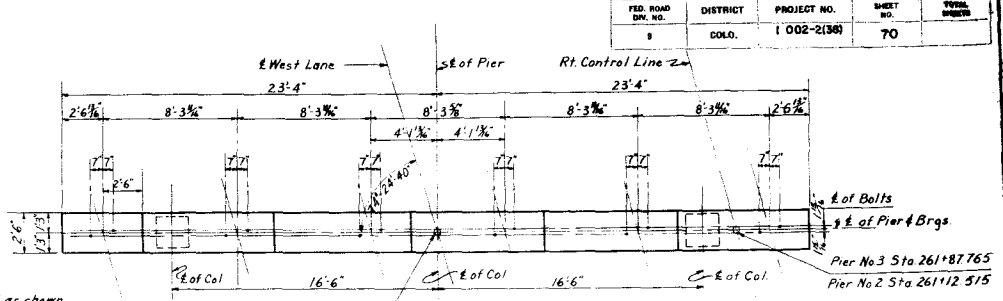
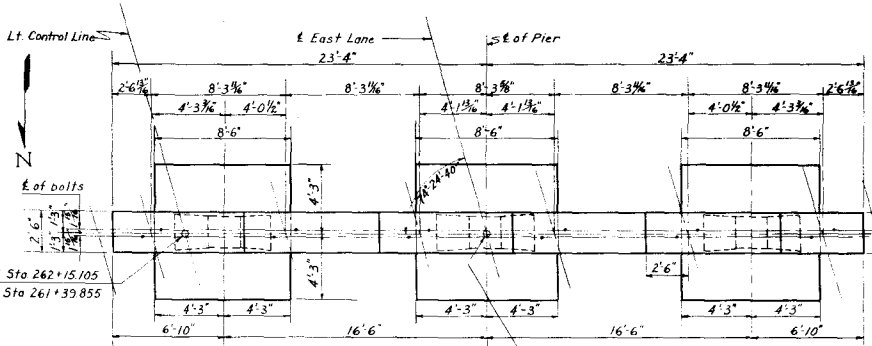
DETAIL OF RAILING AT ABUTMENTS
 Req'd. as shown at Abut. No. 1. One similar at Abut. No. 4
 See also abutment details on sheet No. 69.



PLAN OF INTERMEDIATE SOCKETS
 Req'd. 70

COLORADO
 DEPARTMENT OF HIGHWAYS
 TWO BRIDGES - 3 SPANS (75' x 37' 6")
 STEEL I BEAMS AND CONCRETE
 SLABS - 40' 0" ROADWAY - 2' 3" CURBS
 DETAILS OF HANDRAILS
 ACROSS W 8th. Ave. at N. 1st St.
 West Bridge Sta. 260+00.33 to 262+54.38
 East Bridge Sta. 261+00.33 to 262+54.38
 City of Denver
 1-45 ROADWAY
 Designed by HWV
 Made by HWV
 Checked by
 Approved by HWV
 Bridge Engineer
 Date: Apr. 5, 1955

FED. ROAD DIST. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	1 002-2(158)	70	



MAX TOE PRESSURE
5800 Lbs per Sq. Ft.

Haunches: Columns & Footings and Reinforcing are the same for Piers No 2 & 3 and for East & West Bridges

Str. No. East Bridge F-16-DX Sta 261+00.58 to 262+54.38
Str. No. West Bridge F-16-DZ Sta 260+73.24 to 262+27.04

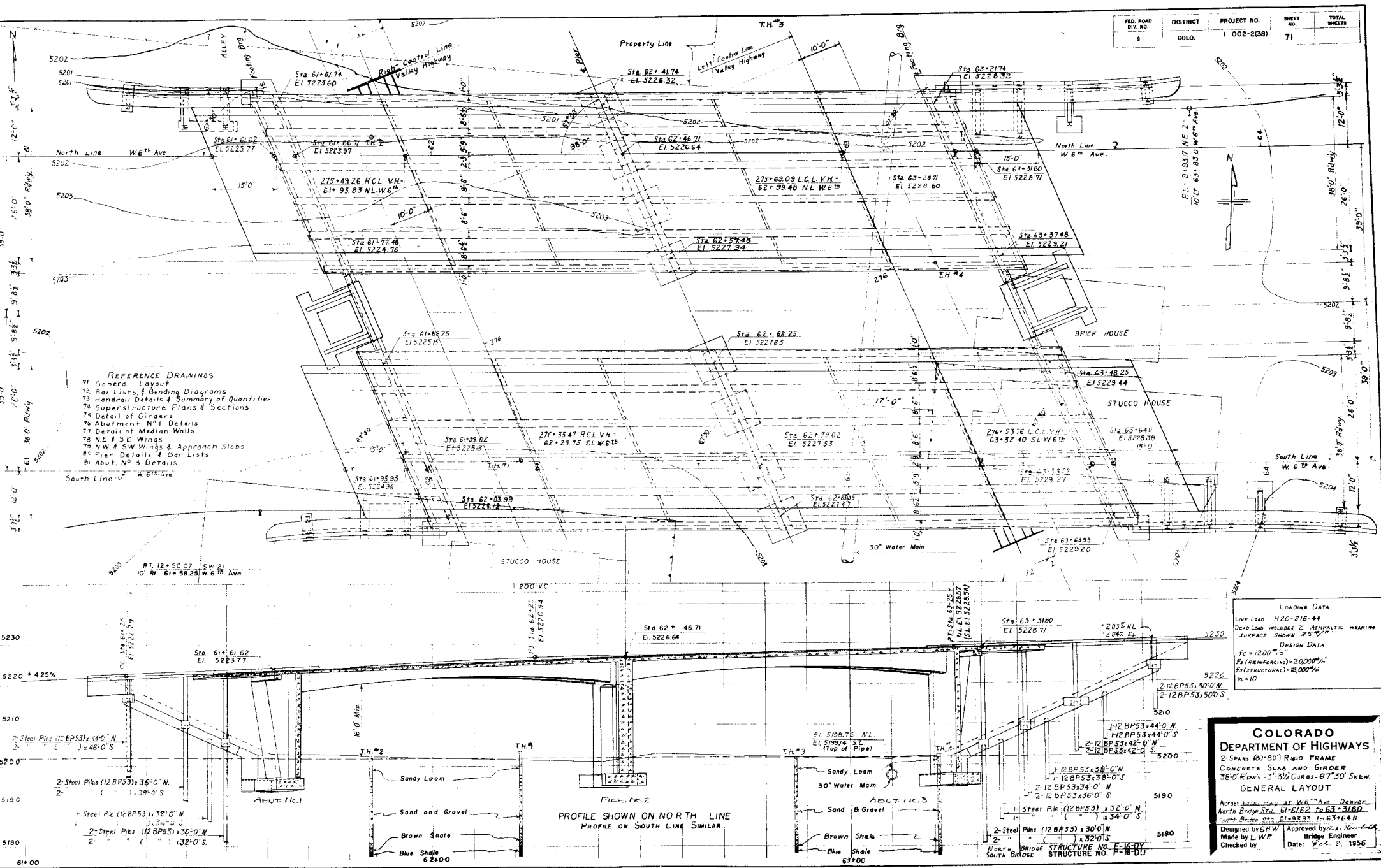
COLORADO
DEPARTMENT OF HIGHWAYS

2 BRIDGES 3 SPANS 37'-6" 75'-3" 37'-6"
STEEL I BEAMS & CONC SLABS
40'-0" R/DY 3'-3 1/2" CURBS 74" x 44" SKEW
DETAILS of PIERS No. 2 & 3
Across W 8th Ave of Yuma St in Denver

Sec. 5 T. 4.5 R. 60 W

Designed by J. W. V. Approved by J. W. V. Bridge Engineer
Checked by H. W. V. Date: Nov. 8, 1955

FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1 002-2(38)	71	



- REFERENCE DRAWINGS**
- 71 General Layout
 - 72 Bar Lists & Bending Diagrams
 - 73 General Details & Summary of Quantities
 - 74 Superstructure Plans & Sections
 - 75 Detail of Girders
 - 76 Abutment No. 1 Details
 - 77 Detail of Median Walls
 - 78 NE & SE Wings
 - 79 NW & SW Wings & Approach Slabs
 - 80 Pier Details & Bar Lists
 - 81 Abut. No. 3 Details

LOADING DATA

LIVE LOAD H-20-S16-44
 DEAD LOAD INCLUDES 2" ASPHALT WEARING SURFACE SHOWING 2.5" CURBS

DESIGN DATA

$F_c = 1200 \text{ PSI}$
 $F_s (\text{REINFORCING}) = 20,000 \text{ PSI}$
 $F_s (\text{STRUCTURAL}) = 18,000 \text{ PSI}$
 $n = 10$

COLORADO
 DEPARTMENT OF HIGHWAYS

GENERAL LAYOUT

2 SPANS (80'-80') RIBBON FRAME
 CONCRETE SLAB AND GIRDER
 38" R/WY - 3" 3/4" CURBS - 8" 3/4" SKEW

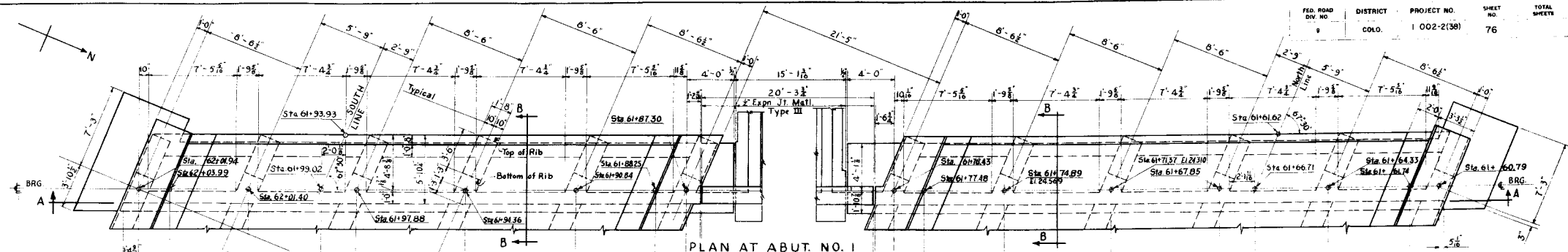
Across existing at W 6th Ave Denver North Bridge Sta. 61+61.74 to 63+31.80 South Abutment Sta. 61+61.74 to 63+31.80

Designed by G.W. Approved by C.A. Newland
 Made by L.W.F. Bridge Engineer
 Checked by Date: Feb. 5, 1955

BAR LIST MEDIAN WING AT ABUT. NO. 1	MARK SIZE	NO.	LENGTH	TYPE	ft	in	ft	
4240	1/2"	15	12'-0"	V	3'-6"	2'-6"		
4241	1/2"	38	10'-8"	V	2'-6"	2'-6"		
4242	1/2"	33	5'-6 1/2"	VI	2'-6"	6 1/2"		
4243	1/2"	21	6'-4"	V	1'-8"	1'-2"		
4244	1/2"	20	20'-0"	STR				
4245			4'-6"		1'-7"			
4257	1/2"	2EA	11'-0"	VII	1'-7"			
4256			14'-9"		6 1/2"			
4257	1/2"	4A	30'-0"	STR				
4258			5'-0"					
4259	1/2"	2EA	11'-0"	VII	1'-7"			
4266			22'-4"					
593	3/8"	10	20'-0"	STR				
594	3/8"	14	20'-0"	STR				
595	3/8"	16	20'-0"	STR				
596	3/8"	8	20'-0"	STR				
597	3/8"	2EA	11'-0"	VII	1'-7"			
502			19'-11"		9'-9"			
503			20'-8"		9'-9"			
504	1/2"	2EA	11'-0"	VII	1'-7"			
508			24'-5"		14'-8"			
509			25'-0"		14'-8"			
510	1/2"	2EA	11'-0"	VII	1'-7"			
512			26'-2"		15'-3"			
860	1"	8	19'-6"	STR				
861	1"	8	14'-7"	STR				
862	1"	16	15'-8"	STR				
960	1 1/2"	4	29'-6"	STR				
961	1 1/2"	2	15'-0"	STR				
962	1 1/2"	4	12'-0"	STR				
963	1 1/2"	2	9'-0"	STR				
964	1 1/2"	12	7'-4"	XI	6'-3"	10'-9"		
SUMMARY MEDIAN WING AT ABUT. NO. 1								
2601	LIN.FT.	%	@	0.668	FT.	=	1911 LBS.	
1647	"	"	"	@	1.043	"	=	1718
513	"	"	"	@	2.670	"	=	1370
302	"	"	"	@	3.400	"	=	1027
								Plus 1% OVERRUN = 59
								TOTAL = 6085
BAR LIST MEDIAN WING AT ABUT. NO. 3								
MARK SIZE	NO.	LENGTH	TYPE	ft	in	ft		
4270	1/2"	15	14'-8"	V	4'-6"	2'-6"		
4271	1/2"	40	10'-8"	V	2'-6"	2'-6"		
4272	1/2"	37	5'-6 1/2"	VI	2'-6"	6 1/2"		
4273	1/2"	21	6'-4"	V	1'-8"	1'-2"		
4274	1/2"	20	20'-0"	STR				
4275			4'-8"		1'-8"			
4286	1/2"	2EA	11'-0"	VII	1'-7"			
4287	1/2"	22	34'-0"	STR				
4288			4'-6"					
4299	1/2"	2EA	11'-0"	VII	1'-7"			
5123	3/8"	10	20'-0"	STR				
5124	3/8"	14	20'-0"	STR				
5125	3/8"	16	20'-0"	STR				
5126	3/8"	12	20'-0"	STR				
5127			15'-8"		7'-1"			
5128	1/2"	2EA	11'-0"	VII	1'-7"			
5129			20'-1"		9'-4"			
5130			20'-10"		9'-9"			
5131	1/2"	2EA	11'-0"	VII	1'-7"			
5132			25'-2"		14'-1"			
5147	1/2"	2EA	11'-0"	VII	1'-7"			
865	1"	10	19'-6"	STR				
866	1"	10	14'-7"	STR				
867	1"	16	17'-6"	STR				

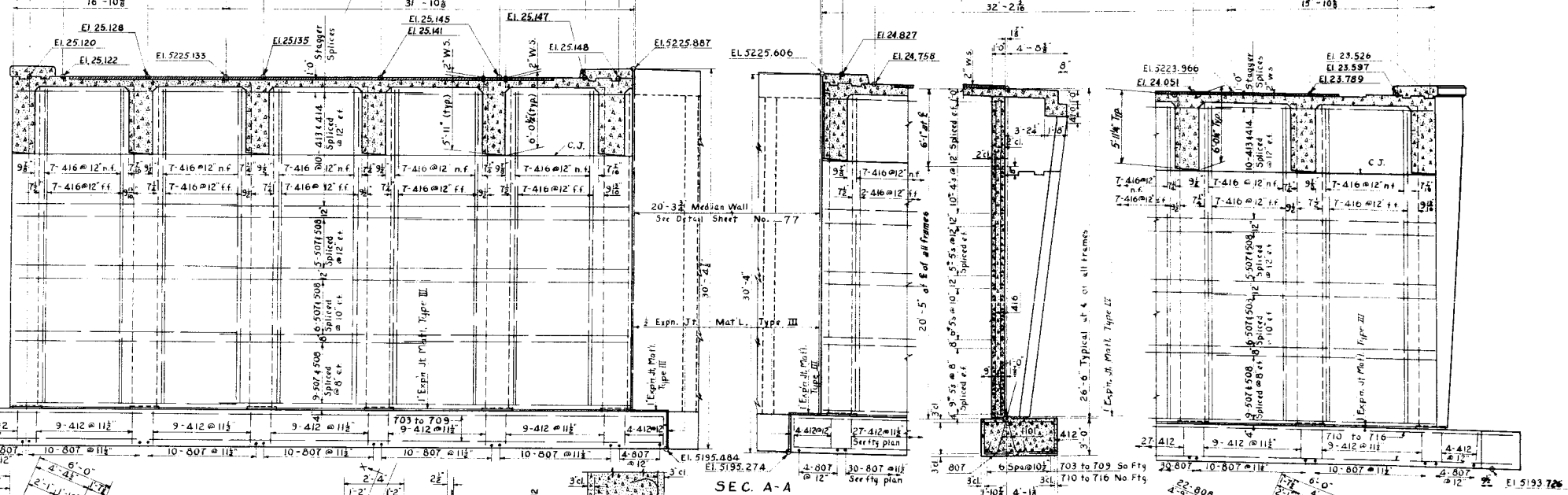
BAR LIST MEDIAN WING AT ABUT. NO. 3 CONT'D	MARK SIZE	NO.	LENGTH	TYPE	ft	in	ft	
960	1 1/2"	4	15'-0"	STR				
961	1 1/2"	2	11'-0"	STR				
962	1 1/2"	6	7'-4"	XI	6'-3"	10'-9"		
1050	1 1/2"	4	34'-0"	STR				
1051	1 1/2"	2	19'-0"	STR				
1052	1 1/2"	3	7'-9"	XI	6'-6"	11'-4"	10'-4"	
SUMMARY MEDIAN WING AT ABUT. NO. 3								
2763	LIN.FT.	%	@	0.668	FT.	=	1846 LBS.	
2024	"	"	"	@	1.043	"	=	2111
621	"	"	"	@	2.670	"	=	1638
126	"	"	"	@	3.400	"	=	428
407	"	"	"	@	3.400	"	=	1751
								Plus 1% OVERRUN = 76
								TOTAL = 7870
BAR LIST NO. BR. & SO. BR. ABUT. NO. 1								
MARK SIZE	NO.	LENGTH <td>TYPE<td>ft</td><td>in</td><td>ft</td><td></td></td>	TYPE <td>ft</td> <td>in</td> <td>ft</td> <td></td>	ft	in	ft		
412	1/2"	5	11'-0"	V	3'-6"	2'-0"		
4126	1/2"	71	8'-2"	V	2'-0"	1'-9"		
4127	1/2"	4	12'-0"	STR				
4128	1/2"	20	8'-0"	V	2'-0"	2'-0"		
4129	1/2"	4	10'-8"	V	3'-6"	1'-8"		
4130	1/2"	6	6'-0"	V	1'-6"	1'-8"		
4131	1/2"	2	6'-0"	STR				
4132	1/2"	4	7'-0"	V	2'-0"	1'-6"		
4133	1/2"	27	5'-6 1/2"	VI	2'-6"	6 1/2"		
4134			4'-4"					
4139	1/2"	2EA	11'-0"	VII	1'-7"			
4140	1/2"	19	9'-0"	VII	3'-0"			
4141			9'-4"		4'-0"			
4149	1/2"	2EA	11'-0"	VII	1'-7"			
4150	1/2"	6	18'-0"	STR				
4151			3'-0"					
4152	1/2"	2EA	11'-0"	VII	1'-7"			
4156			10'-6"		4'-4"			
4157			10'-10"		4'-4"			
416	1/2"	2EA	11'-0"	VII	1'-7"			
4166			22'-0"		10'-4"			
4167	1/2"	6	12'-10"	STR				
4168	1/2"	2	6'-0"	STR				
4169	1/2"	2	4'-10"	STR				
4170	1/2"	2	3'-8"	STR				
4172			10'-2"		4'-5"			
4178	1/2"	2EA	11'-0"	VII	1'-7"			
4179	1/2"	6	6'-0"	STR				
4180	1/2"	49	5'-6 1/2"	VI	2'-6"	6 1/2"		
4181	1/2"	16	28'-3"	STR				
4182			15'-6"					
4186	1/2"	2EA	11'-0"	VII	1'-7"			
4187	1/2"	4	27'-0"	STR				
4188	1/2"	4	27'-6"	STR				
4189	1/2"	18	3'-9"	STR				
4190	1/2"	4	11'-0"	STR				
4191	1/2"	4	17'-0"	STR				
4192			5'-1"					
4207	1/2"	2EA	11'-0"	VII	1'-7"			
4208			12'-11"		8'-8"			
4217	1/2"	2EA	11'-0"	VII	1'-7"			
4218	1/2"	2	16'-10"	STR				
4223	1/2"	2EA	11'-0"	VII	1'-7"			
4228			23'-7"		15'-0"			
4232	1/2"	2EA	11'-0"	VII	1'-7"			
4233	1/2"	2	11'-0"	STR				
4234	1/2"	56	4'-3"	VIII	2'-3"	1'-0"		
4235	1/2"	55	3'-6"	II	2'-0"	8"		
4236	1/2"	55	2'-9"	STR				
4237	1/2"	8	27'-10"	STR				
4238	1/2"	4	21'-5"	STR				
4239	1/2"	6	22'-5"	STR				
565	3/8"	12	5'-6"	STR				
566			19'-6"		9'-1"			
570	1/2"	2EA	11'-0"	VII	1'-7"			
571			24'-11"		15'-9"			
572	3/8"	1	23'-4"	VII	11'-0"			
573	3/8"	1	24'-10"	VII	11'-0"			
574			25'-6"					
578	1/2"	2EA	11'-0"	VII	1'-7"			
579			14'-6"					
585	1/2"	2EA	11'-0"	VII	1'-7"			
585			24'-0"					
586	1/2"	2	13'-0"	STR				
587	1/2"	2	11'-9"	STR				
588	1/2"	2	10'-8"	STR				
589	1/2"	14	7'-9"	STR				
585	1"	46	14'-6"	STR				
SUMMARY 1 APPROACH SLAB (4 SLABS SAME)								
1341	LIN.FT.	%	@	1.043	FT.	=	1399 LBS.	
667	"	"	"	@	2.670	"	=	1781
								Plus 1% OVERRUN = 30
								TOTAL ONE APPROACH SLAB = 3210
								TOTAL FOUR APPROACH SLABS = 12840

BAR LIST NE WING (SE SAME)	MARK SIZE	NO.	LENGTH	TYPE	ft	in	ft
4125	1/2"	5	11'-0"	V	3'-6"	2'-0"	
4126	1/2"	71	8'-2"	V	2'-0"	1'-9"	
4127	1/2"	4	12'-0"	STR			
4128	1/2"	20	8'-0"	V	2'-0"	2'-0"	
4129	1/2"	4	10'-8"	V	3'-6"	1'-8"	
4130	1/2"	6	6'-0"	V	1'-6"	1'-8"	
4131	1/2"	2	6'-0"	STR			
4132	1/2"	4	7'-0"	V	2'-0"	1'-6"	
4133	1/2"	27	5'-6 1/2"	VI	2'-6"	6 1/2"	
4134			4'-4"				
4139	1/2"	2EA	11'-0"	VII	1'-7"		
4140	1/2"	19	9'-0"	VII	3'-0"		
4141			9'-4"		4'-0"		
4149	1/2"	2EA	11'-0"	VII	1'-7"		
4150	1/2"	6	18'-0"	STR			
4151			3'-0"				
4152	1/2"	2EA	11'-0"	VII	1'-7"		
4156			10'-6"		4'-4"		
4157			10'-10"		4'-4"		
416	1/2"	2EA	11'-0"	VII	1'-7"		
4166			22'-0"		10'-4"		
4167	1/2"	6	12'-10"	STR			
4168	1/2"	2	6'-0"	STR			
4169	1/2"	2	4'-10"	STR			
4170	1/2"	2	3'-8"	STR			
4172			10'-2"		4'-5"		
4178	1/2"	2EA	11'-0"	VII	1'-7"		
4179	1/2"	6	6'-0"	STR			
4180	1/2"	49	5'-6 1/2"	VI	2'-6"	6 1/2"	
4181	1/2"	16	28'-3"	STR			
4182			15'-6"				
4186	1/2"	2EA	11'-0"	VII	1'-7"		
4187	1/2"	4	27'-0"	STR			
4188	1/2"	4	27'-6"	STR			
4189	1/2"	18	3'-9"	STR			
4190	1/2"	4	11'-0"	STR			
4191	1/2"	4	17'-0"	STR			
4192			5'-1"				
4207	1/2"	2EA	11'-0"	VII	1'-7"		
4208			12'-11"		8'-8"		
4217	1/2"	2EA	11'-0"	VII	1'-7"		
4218	1/2"	2	16'-10"	STR			
4223	1/2"	2EA	11'-0"	VII	1'-7"		
4228			23'-7"		15'-0"		
4232	1/2"	2EA	11'-0"	VII	1'-7"		
4233	1/2"	2	11'-0"	STR			
4234	1/2"	56	4'-3"	VIII	2'-3"	1'-0"	
4235	1/2"	55	3'-6"	II	2'-0"	8"	
4236	1/2"	55	2'-9"	STR			
4237	1/2"	8	27'-10"	STR			
4238	1/2"	4	21'-5"	STR			
4239	1/2"	6	22'-5"	STR			
565	3/8"	12	5'-6"	STR			
566			19'-6"		9'-1"		
570	1/2"	2EA	11'-0"	VII	1'-7"		
571			24'-11"		15'-9"		
572	3/8"	1	23'-4"	VII	11'-0"		
573	3/8"	1	24'-10"	VII	11'-0"		
574			25'-6"				



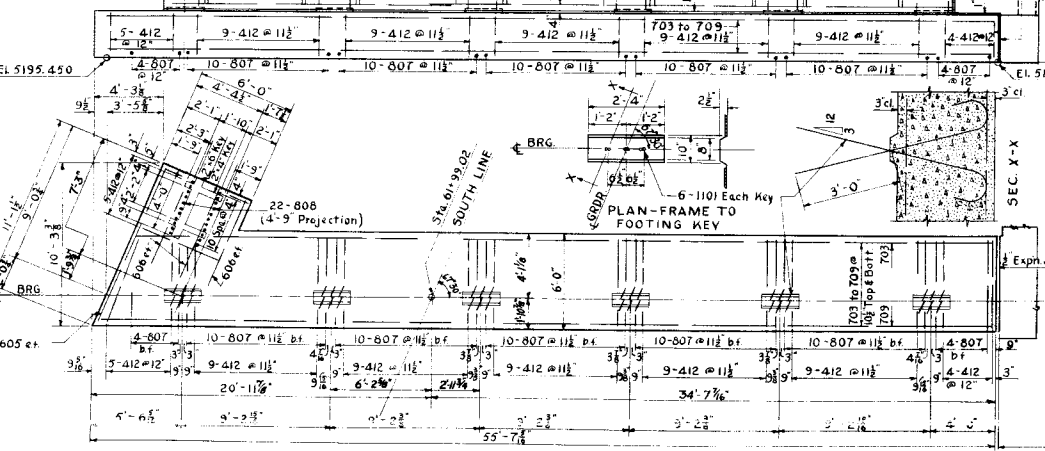
PLAN AT ABUT. NO. 1

NOTE!
 All Elevations shown are at 4' Org.



SEC. A-A

SEC. B-B



Max. Soil Pressure = 3.4 Ton/sq'

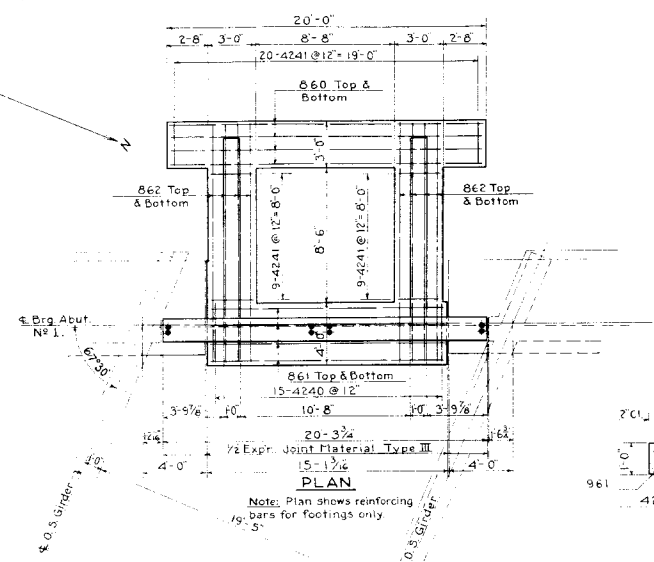
ABUT. NO. 1 FOOTING PLAN

STRUCTURE NO NORTH BRIDGE F-16-DY SOUTH BRIDGE F-16-DU

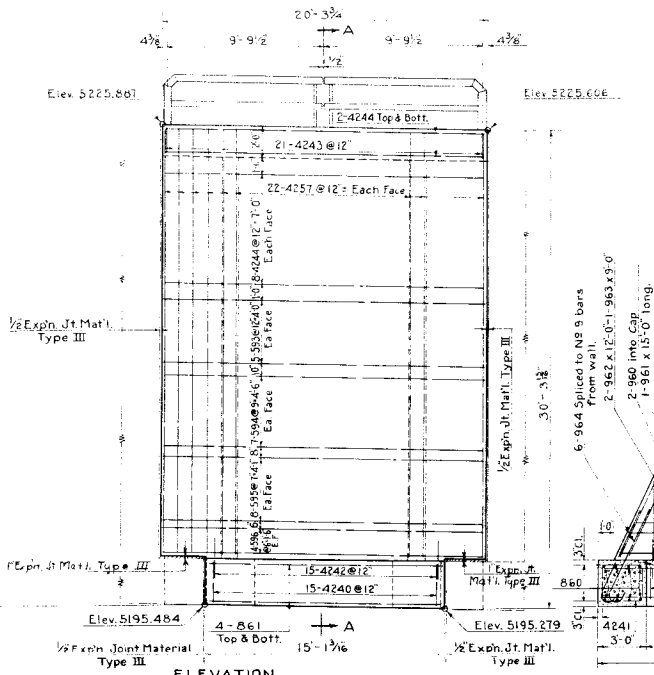
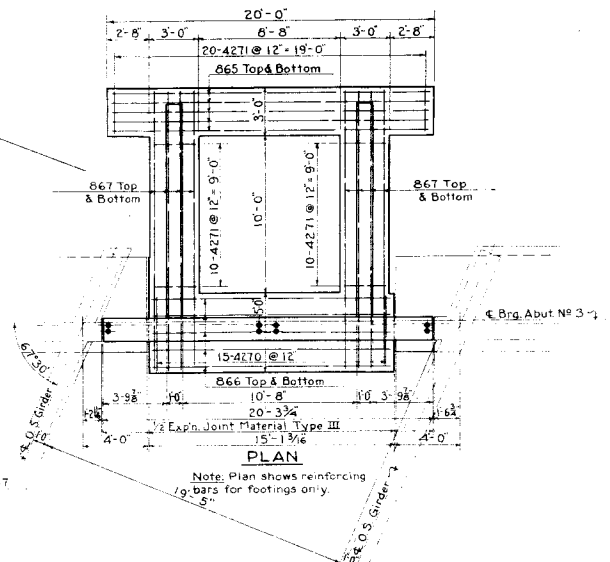
	CONCRETE	No Bridge	So Bridge
Footing	38 6 cu yd	36 2 cu yd	36 2 cu yd
Footing to C.T.	55 4 cu yd	55 4 cu yd	55 4 cu yd
Total	94 0 cu yd	94 0 cu yd	94 0 cu yd

COLORADO
 DEPARTMENT OF HIGHWAYS
 2 SPANS (80'-80') RIGID FRAME
 CONCRETE SLAB & GIRDER
 38'-0" ROWY 3 3/8" CURBS 67'30" SKEW
 ABUT. NO. 1 DETAILS
 ACROSS Valley Highway at 6th. Ave.
 North Bridge Sta. 61+61.62 to 63+31.80
 South Bridge Sta. 61+93.93 to 68+64.11
 In Denver Sec. 3 T. 45 S. R. 108 E.

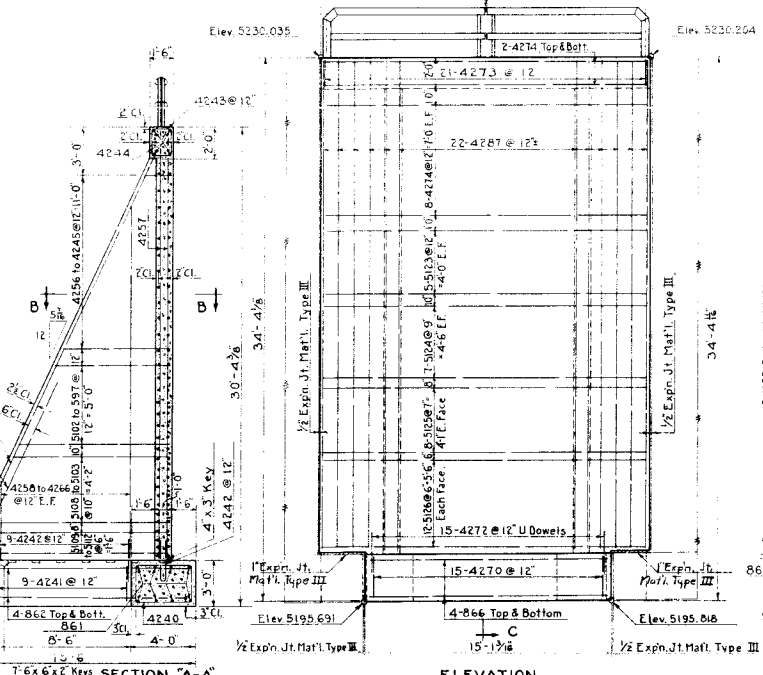
Made by F.L. Checked by _____
 Bridge Engineer Date 10/27/1968



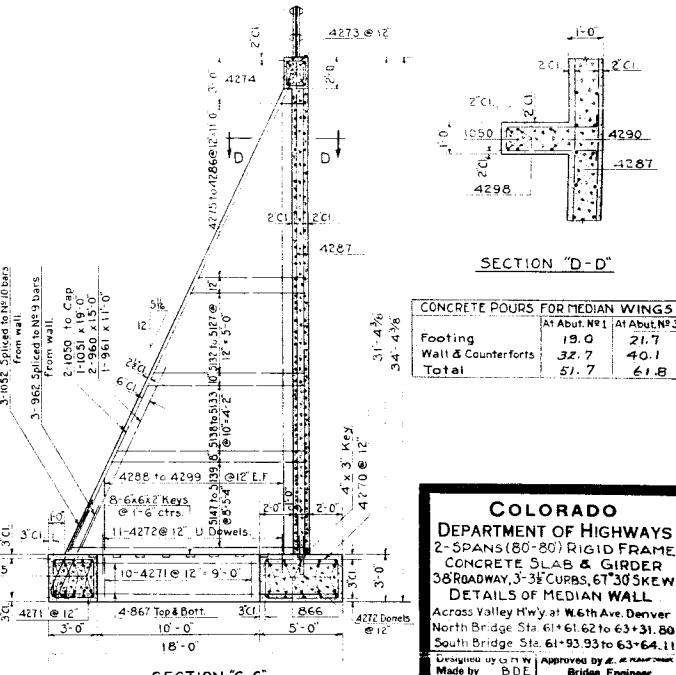
SECTION "B-B"



DETAILS OF MEDIAN WING AT ABUTMENT NO. 1

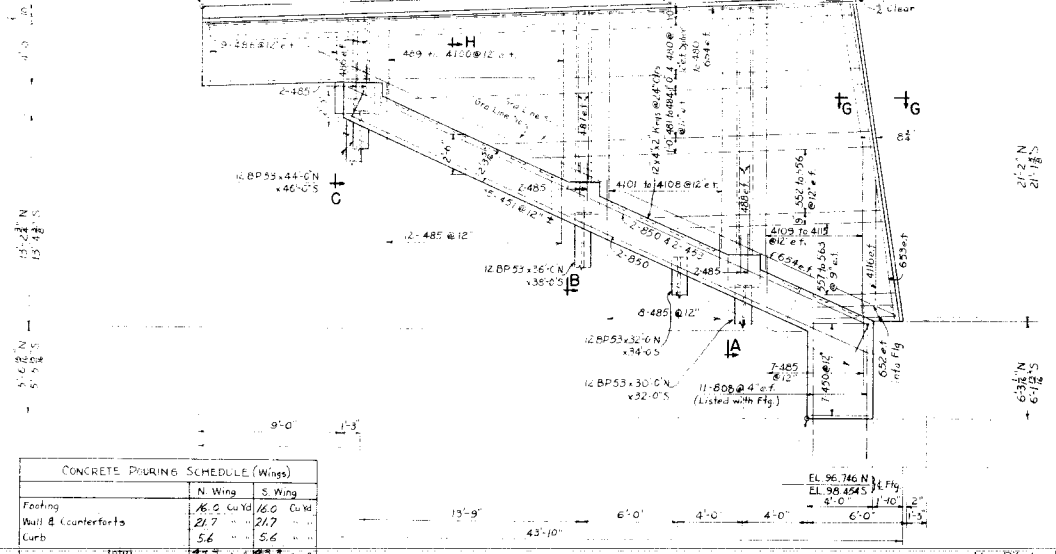
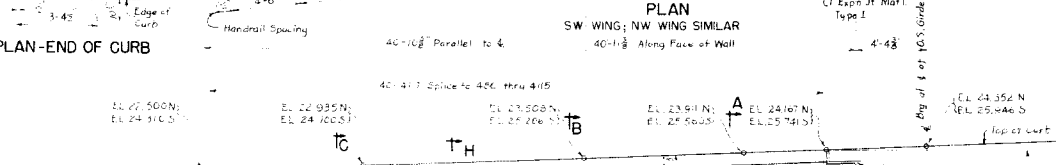
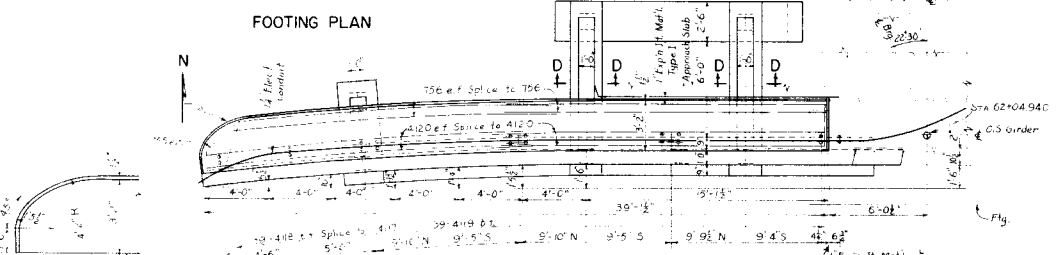
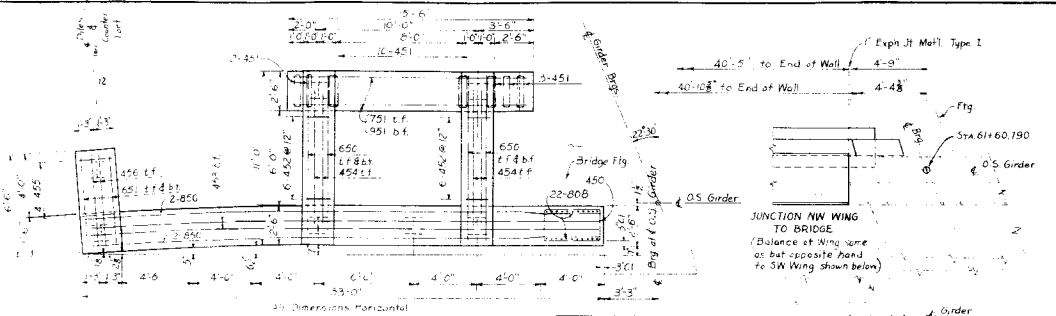


DETAILS OF MEDIAN WING AT ABUT. NO. 3

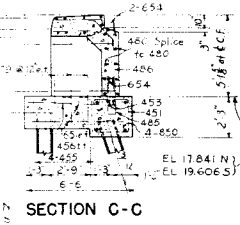
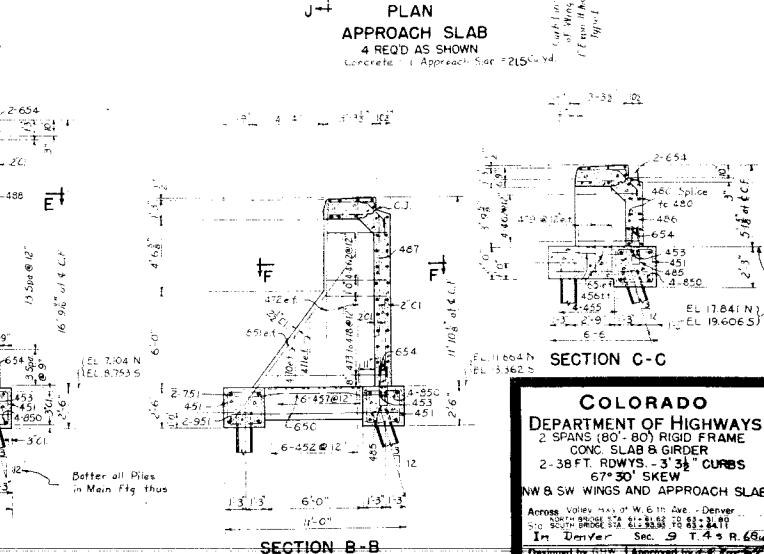
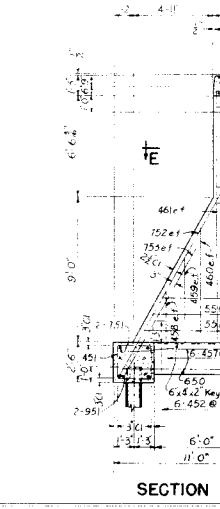
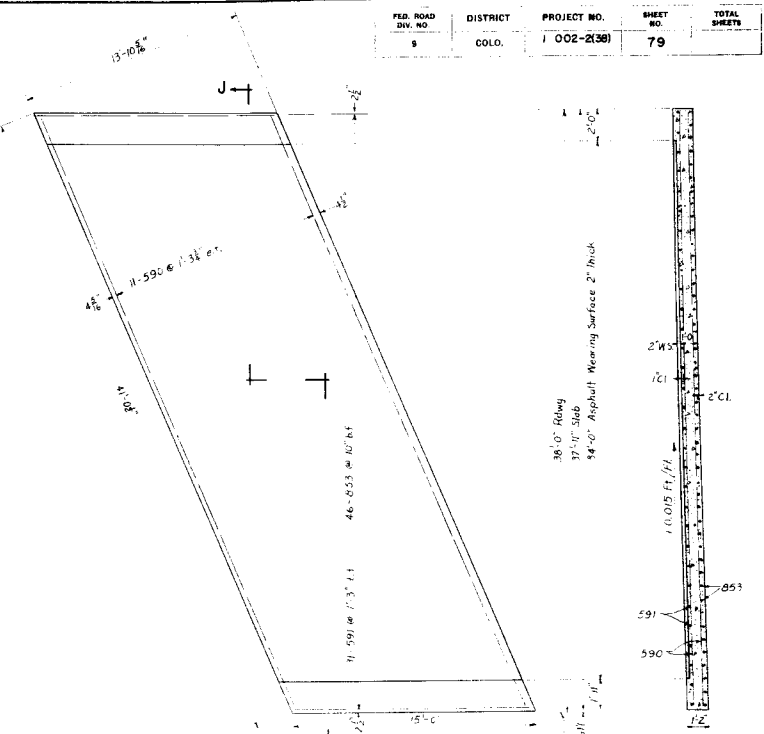
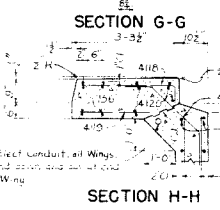
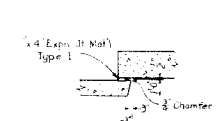
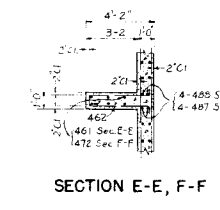
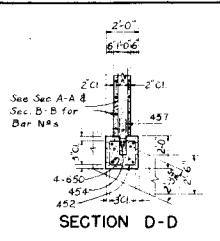


STRUCTURE Nos. F-16-DY & F-16-DU

COLORADO
 DEPARTMENT OF HIGHWAYS
 2-SPANS (80'-80') RIGID FRAME
 CONCRETE SLAB & GIRDER
 38' ROADWAY, 3'-3" CURBS, 61' 30" SKEW
 DETAILS OF MEDIAN WALL
 Across Valley Hwy. at W. 6th Ave. Denver
 North Bridge Sta. 61+61.62 to 63+31.80
 South Bridge Sta. 61+93.93 to 63+64.11



	N. Wing	S. Wing
Facing	16.0 Curb	16.0 Curb
Wall & Counterforts	21.7	21.7
Curb	5.6	5.6
Total	43.3	43.3



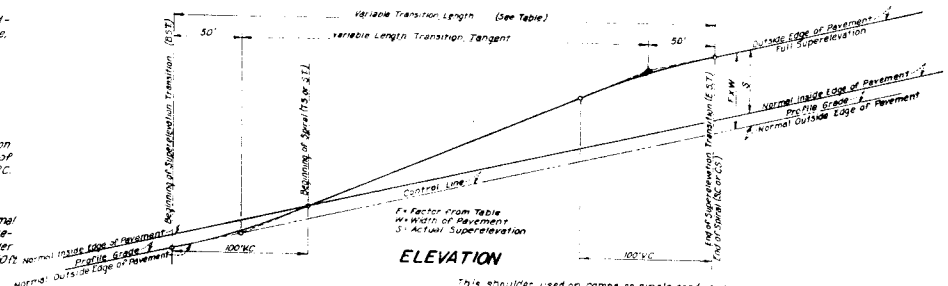
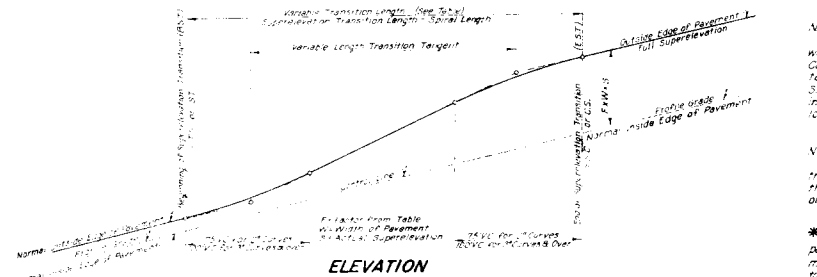
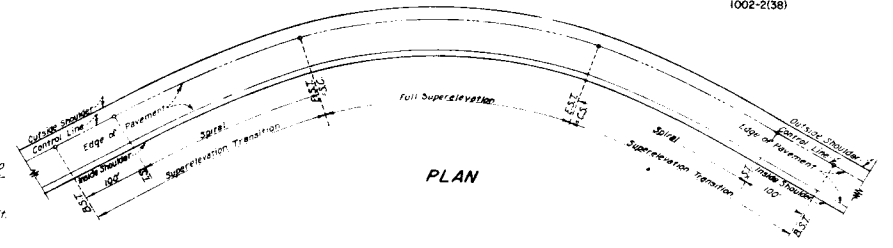
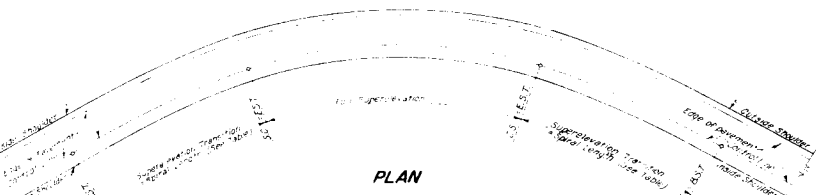
COLORADO
DEPARTMENT OF HIGHWAYS
 2 SPANS (60' - 80') RIGID FRAME
 CONC. SLAB & GIRDER
 2-38 FT. RDWS. - 3' 3/8" CURBS
 67° 30' SKEW
 NW & SW WINGS AND APPROACH SLAB

Across Valley Max. of W. 6th Ave. - Denver
 510 SOUTH BRIDGE ST. DENVER CO. 80247
 1st Denver Sec. 2 T. 4 S. R. 65

Designed by: *[Signature]*
 Made by: C.W.
 Checked by: *[Signature]* Bridge Engineer
 Date: 2.4.3, 1956

Note: All bar dimensions are to C. of bars unless marked "Clear" (C.).

FED. ROAD DIV. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	COLO.	Combined Bridges Roadway Structures Roadway Structures 1002-2(38)	103	

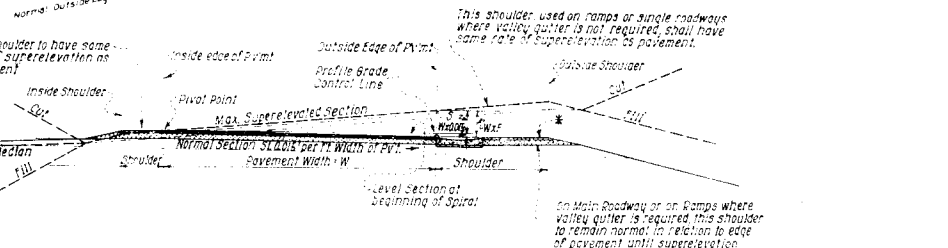
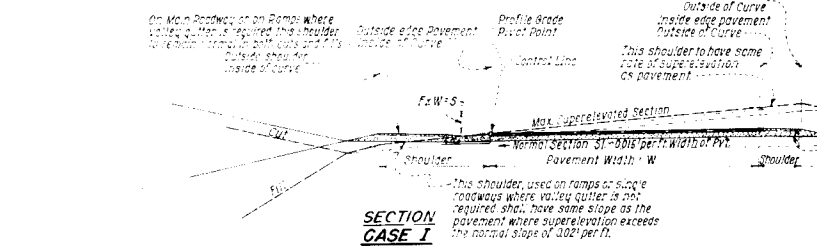


NOTE: CASE I
The normal roadway slope is approximately equal to the super-elevation for a $\frac{1}{2}$ curve. Therefore no super-elevation is required for $\frac{1}{2}$ curves.
For curves of over $\frac{1}{2}$ the factors shown in the table for Case I include the normal roadway slope of .001 Ft. per Ft. thereby giving values of actual super-elevation at any point on the transition.

NOTE: CASE II
In order that the opposing slope of the normal roadway be eliminated before entering the horizontal curve, Case II super-elevation transitions shall begin on the tangent one hundred feet (100') from the T.S. and/or S.T. of the spiral. Case II super-elevation, calculated as indicated in the table, is to be added to the normal, low edge of pavement.

NOTE: CASE I & II
On curves where no spirals are used the super-elevation transition shall be on the tangent approaching each end of the curve. Full Super-elevation to coincide with the P.C. or P.T. of such curve.

* Shoulders having slopes adverse to or greater than normal pavement slope shall be raised to coincide with the pavement slope at beginning of transition. Raising of shoulder to take place gradually over a distance of not less than 50 ft.



SUPERELEVATION TRANSITION
CURVES HAVING SUPERELEVATION IN SAME DIRECTION AS NORMAL ROADWAY SLOPE

SECTION CASE II
SUPERELEVATION TRANSITION CURVES HAVING SUPERELEVATION IN OPPOSITE DIRECTION TO NORMAL ROADWAY SLOPE

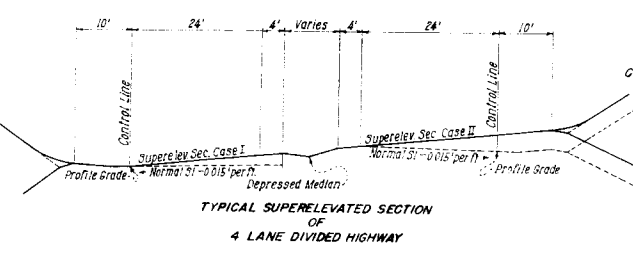
SUPERELEVATION TABLE

DEG OF CURVE	CASE I	CASE II	PROPORTIONAL DISTANCE FROM BEGINNING OF TRANSITION														
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	Max 1.0					
1°	1°	1°	.00060	.00240	.00540	.00960	.01500	.02140	.02880	.03720	.04650	.05670	.06780	.07980	.09270	.10650	
2°	2°	2°	.01512	.01548	.01608	.01692	.01800	.01909	.01992	.02052	.02088	.02100	.02100	.02100	.02100	.02100	.02100
3°	3°	3°	.02073	.02290	.02653	.03152	.03800	.04538	.05297	.06052	.06800	.07538	.08260	.08960	.09630	.10270	
4°	4°	4°	.02533	.02830	.03297	.03900	.04650	.05438	.06252	.07080	.07910	.08730	.09530	.10300	.11040	.11750	
5°	5°	5°	.03017	.03480	.04050	.04720	.05490	.06250	.07080	.07910	.08730	.09530	.10300	.11040	.11750	.12420	

FACTORS SHOWN IN ABOVE TABLE ARE BASED ON THE FOLLOWING TRANSITION LENGTHS

DEG OF CURVE	LENGTH OF SPIRAL		LENGTH OF SUPERELEVATION TRANSITION	
	None	200'	CASE I	CASE II
1 Degree	None	150'	None	200'
2 Degrees	150'	200'	200'	200'
3 Degrees	200'	250'	250'	250'
4 Degrees	250'	300'	300'	300'
5 Degrees	300'	300'	300'	400'

Factors from Table x W/Width of pavement in Ft. = Value of Super-elev in Ft. to be added to normal low elev of edge of pavement. See notes on sections above for super-elevation of shoulders.



COLORADO STATE HIGHWAY DEPT.
THE VALLEY HIGHWAY DENVER, COLORADO

METHODS FOR SUPERELEVATION OF CURVES

CROCKER AND RYAN
CONSULTING ENGINEERS
DENVER, COLORADO

DATE: _____ SHEET: 103 OF _____ DWG. NO. _____

CASE II SUPERELEVATION

CASE I SUPERELEVATION

FED. ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	COLO.	1002-2138	104	

CURVE	Rate	Proportional distance from beginning of transition (TRANS-200')									
		0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
00	.00000	.00060	.00240	.00540	.00960	.01500	.02040	.02460	.02760	.02940	.03000
01	.00001	.00073	.00265	.00577	.01009	.01559	.02087	.02495	.02783	.02951	
02	.00002	.00086	.00290	.00644	.01058	.01618	.02134	.02530	.02806	.02962	
03	.00005	.00101	.00317	.00653	.01109	.01685	.02179	.02563	.02827	.02971	
04	.00010	.00118	.00346	.00694	.01162	.01750	.02222	.02594	.02846	.02978	
05	.00015	.00135	.00375	.00735	.01215	.01785	.02265	.02625	.02865	.02985	
06	.00022	.00154	.00406	.00778	.01270	.01838	.02306	.02654	.02882	.02990	
07	.00029	.00173	.00437	.00821	.01325	.01891	.02347	.02683	.02899	.02995	
08	.00038	.00194	.00470	.00866	.01382	.01942	.02386	.02710	.02914	.02998	
09	.00049	.00217	.00505	.00913	.01441	.01991	.02423	.02735	.02927		

CURVE	Rate	Proportional distance from beginning of transition (TRANS-150')									
		0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
00	.01500	.01512	.01548	.01608	.01692	.01800	.01909	.01992	.02052	.02088	.02100
01	.01500	.01515	.01553	.01615	.01702	.01812	.01918	.01999	.02057	.02090	
02	.01501	.01517	.01558	.01623	.01712	.01824	.01927	.02006	.02061	.02092	
03	.01501	.01520	.01564	.01631	.01722	.01835	.01936	.02013	.02065	.02094	
04	.01502	.01524	.01569	.01639	.01732	.01846	.01945	.02019	.02069	.02096	
05	.01503	.01527	.01575	.01647	.01743	.01857	.01953	.02025	.02073	.02097	
06	.01504	.01531	.01581	.01656	.01754	.01868	.01961	.02031	.02077	.02098	
07	.01506	.01535	.01587	.01664	.01765	.01878	.01969	.02037	.02080	.02099	
08	.01508	.01539	.01594	.01673	.01777	.01888	.01977	.02042	.02083	.02099	
09	.01510	.01543	.01601	.01683	.01788	.01902	.01985	.02047	.02086	.02100	

CURVE	Rate	Proportional distance from beginning of transition (TRANS-250')									
		0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
00	.00000	.00073	.00290	.00653	.01162	.01800	.02438	.02947	.03310	.03527	.03600
01	.00001	.00088	.00340	.00698	.01220	.01866	.02496	.02989	.03338	.03541	
02	.00003	.00105	.00351	.00743	.01281	.01932	.02552	.03038	.03365	.03551	
03	.00007	.00123	.00384	.00791	.01342	.01998	.02609	.03059	.03364	.03547	
04	.00012	.00142	.00418	.00839	.01406	.02064	.02659	.03109	.03414	.03574	
05	.00018	.00163	.00454	.00889	.01470	.02130	.02711	.03146	.03437	.03582	
06	.00026	.00186	.00491	.00941	.01536	.02194	.02761	.03182	.03458	.03588	
07	.00036	.00210	.00529	.00994	.01602	.02257	.02809	.03216	.03477	.03593	
08	.00046	.00235	.00569	.01048	.01668	.02319	.02857	.03249	.03495	.03597	
09	.00059	.00262	.00611	.01104	.01734	.02380	.02902	.03280	.03512	.03599	

CURVE	Rate	Proportional distance from beginning of transition (TRANS-200')									
		0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
00	.01500	.01533	.01632	.01797	.02028	.02325	.02622	.02853	.03018	.03117	.03150
01	.01500	.01540	.01646	.01818	.02055	.02358	.02648	.02872	.03031	.03123	
02	.01501	.01548	.01660	.01838	.02082	.02390	.02674	.02891	.03043	.03129	
03	.01503	.01556	.01675	.01859	.02110	.02421	.02698	.02909	.03055	.03134	
04	.01505	.01565	.01690	.01883	.02135	.02452	.02722	.02927	.03064	.03138	
05	.01508	.01574	.01706	.01904	.02168	.02482	.02746	.02944	.03076	.03142	
06	.01512	.01586	.01723	.01928	.02198	.02511	.02767	.02960	.03085	.03145	
07	.01516	.01595	.01741	.01952	.02229	.02540	.02791	.02975	.03094	.03147	
08	.01521	.01607	.01759	.01977	.02260	.02568	.02812	.02990	.03103	.03149	
09	.01527	.01619	.01778	.02002	.02292	.02595	.02833	.03004	.03110	.03150	

CURVE	Rate	Proportional distance from beginning of transition (TRANS-300')									
		0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
00	.00000	.00097	.00390	.00876	.01558	.02325	.03092	.03774	.04260	.04553	.04650
01	.00001	.00118	.00429	.00936	.01634	.02402	.03167	.03831	.04298	.04571	
02	.00004	.00140	.00471	.00997	.01711	.02493	.03244	.03837	.04334	.04588	
03	.00009	.00165	.00515	.01061	.01788	.02555	.03317	.03900	.04399	.04626	
04	.00016	.00191	.00561	.01126	.01865	.02632	.03388	.03945	.04401	.04615	
05	.00024	.00219	.00609	.01193	.01941	.02709	.03457	.04041	.04431	.04626	
06	.00035	.00249	.00658	.01262	.02018	.02785	.03524	.04089	.04459	.04634	
07	.00048	.00281	.00710	.01333	.02095	.02862	.03590	.04135	.04485	.04641	
08	.00062	.00316	.00763	.01406	.02172	.02939	.03653	.04179	.04510	.04646	
09	.00079	.00352	.00819	.01481	.02248	.03016	.03714	.04221	.04532	.04649	

CURVE	Rate	Proportional distance from beginning of transition (TRANS-250')									
		0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
00	.01500	.01556	.01725	.02006	.02400	.02850	.03300	.03694	.03975	.04144	.04200
01	.01500	.01568	.01748	.02041	.02445	.02895	.03345	.03727	.03997	.04155	
02	.01502	.01581	.01772	.02076	.02490	.02940	.03388	.03759	.04018	.04164	
03	.01505	.01595	.01798	.02113	.02535	.02985	.03430	.03790	.04038	.04173	
04	.01509	.01610	.01824	.02150	.02580	.03030	.03471	.03820	.04056	.04180	
05	.01514	.01627	.01852	.02189	.02625	.03075	.03511	.03849	.04074	.04186	
06	.01520	.01644	.01880	.02229	.02670	.03120	.03550	.03876	.04090	.04191	
07	.01528	.01663	.01910	.02270	.02715	.03165	.03588	.03903	.04105	.04195	
08	.01536	.01682	.01941	.02312	.02760	.03210	.03624	.03928	.04119	.04198	
09	.01546	.01703	.01973	.02355	.02805	.03255	.03660	.03952	.04132	.04200	

CURVE	Rate	Proportional distance from beginning of transition (TRANS-350')									
		0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
00	.00000	.00127	.00506	.01140	.01984	.02850	.03716	.04560	.05194	.05573	.05700
01	.00001	.00153	.00558	.01217	.02070	.02937	.03803	.04635	.05263	.05597	
02	.00005	.00182	.00613	.01297	.02157	.03023	.03890	.04707	.05290	.05619	
03	.00011	.00214	.00670	.01379	.02244	.03110	.03976	.04777	.05334	.05638	
04	.00020	.00248	.00729	.01464	.02330	.03197	.04063	.04844	.05376	.05654	
05	.00032	.00285	.00791	.01550	.02417	.03283	.04150	.04909	.05415	.05668	
06	.00046	.00324	.00856	.01637	.02503	.03370	.04236	.04971	.05432	.05680	
07	.00062	.00366	.00923	.01724	.02590	.03457	.04321	.05030	.05486	.05689	
08	.00081	.00410	.00993	.01810	.02677	.03543	.04403	.05087	.05518	.05695	
09	.00103	.00457	.01065	.01897	.02763	.03630	.04483	.05142	.05547	.05699	

CURVE	Rate	Proportional distance from beginning of transition (TRANS-300')									
		0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
00	.01500	.01584	.01837	.02259	.02812	.03374	.03937	.04490	.04912	.05165	.05249
01	.01501	.01602	.01872	.02310	.02868	.03431	.03993	.04540	.04945	.05181	
02	.01503	.01621	.01908	.02364	.02975	.03487	.04049	.04588	.04976	.05195	
03	.01507	.01642	.01946	.02418	.02981	.03543	.04106	.04634	.05005	.05208	
04	.01513	.01665	.01986	.02475	.03037	.03599	.04162	.04679	.05033	.05219	
05	.01521	.01690	.02030	.02531	.03093	.03656	.04218	.04719	.05059	.05228	
06	.01530	.01716	.02070	.02587	.03149	.03712	.04274	.04763	.05084	.05236	
07	.01541	.01744	.02115	.02643	.03206	.03768	.04330	.04803	.05107	.05242	
08	.01554	.01773	.02161	.02700	.03262	.03824	.04385	.04841	.05128	.05246	
09	.01568	.01804	.02209	.02756	.03318	.03881	.04438	.04877	.05147	.05248	

CURVE	Rate	Proportional distance from beginning of transition (TRANS-400')									
		0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
00	.00000	.00160	.00640	.01440	.02408	.03375	.04343	.05310	.06110	.06590	.06750
01	.00002	.00194	.00706	.01537	.02504	.03472	.04439	.05404	.06172	.06620	
02	.00006	.00230	.00774	.01634	.02601	.03569	.04536	.05496	.06232	.06648	
03	.00014	.00270	.00846	.01730	.02697	.03665	.04633	.05584	.06288	.06672	
04	.00026	.00314	.00922	.01827	.02795	.03762	.04730	.05668	.06340	.06692	
05	.00040	.00360	.01000	.01924	.02891	.03859	.04826	.05750	.06390	.06710	
06	.00058	.00410	.01082	.02021	.02988	.03956	.04923	.05828	.06436	.06724	
07	.00078	.00462	.01166	.02117	.03085	.04052	.05020	.05904	.06480	.06736	
08	.00102	.00518	.01254	.02214	.03182	.0414					

STANDARD SIDE APPROACH ROADS, FLARING, CUT SLOPE TREATMENT & WIDENING AT BRIDGES AND AT CREST OF GRADES

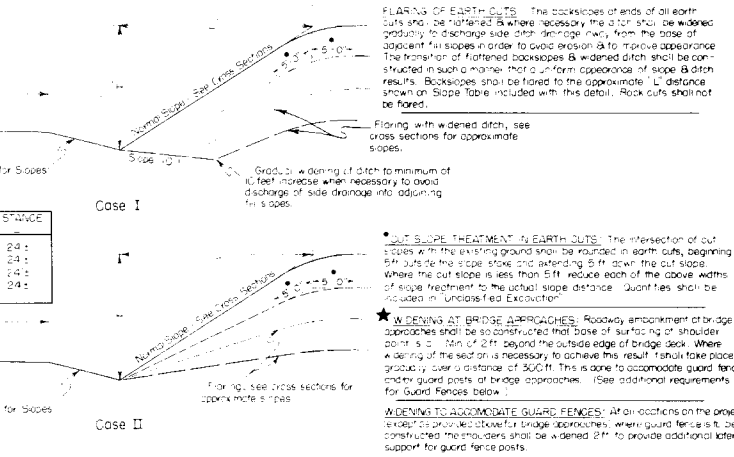
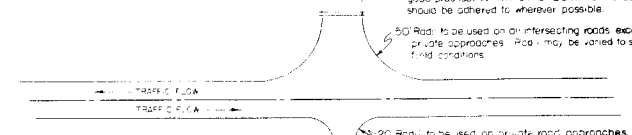
STANDARD M-2-EM

FED. ROAD DIV. NO. 9 DISTRICT 5 SHEET NO. 1702-239-35 TOTAL SHEETS 35
 Rev. 12-9-53, Details of Road Approaches, J.G.R.
 Rev. 10-28-55, Widening at Bridge Approaches Note, S.U.M.

GENERAL DETAILS FOR FLARING OF EARTH CUTS, CUT SLOPE TREATMENT & WIDENING AT BRIDGES

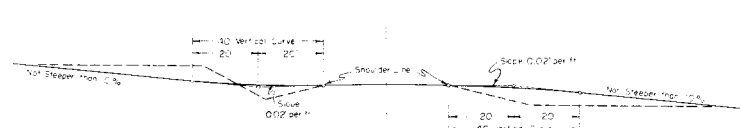
TYPICAL PLANS FOR SIDE APPROACH ROADS

SIDE DRAINS. To be placed on greatest face by distance from the roadway shoulder consistent with good practice. A minimum of 20 ft from shoulder should be adhered to wherever possible.
 30' Road to be used on intersecting roads except private approaches. Road may be varied to suit field conditions.
 20' Road to be used on private road approaches.

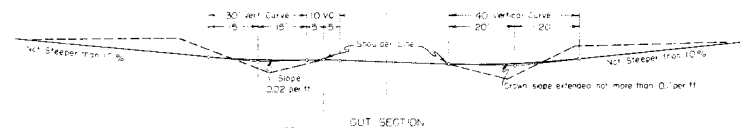


NORMAL SLOPE	FLARE	DISTANCE
5 to 10	24	24 ft
10 to 15	24	24 ft
15 to 20	24	24 ft
20 to 25	24	24 ft

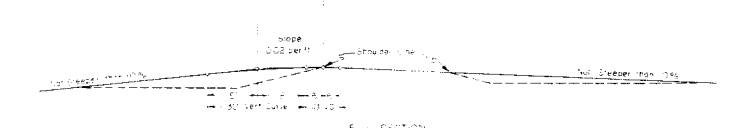
STANDARD CROWNED SECTION



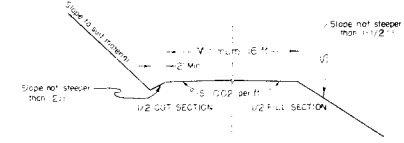
SUPERELEVATED SECTIONS



CUT SECTION

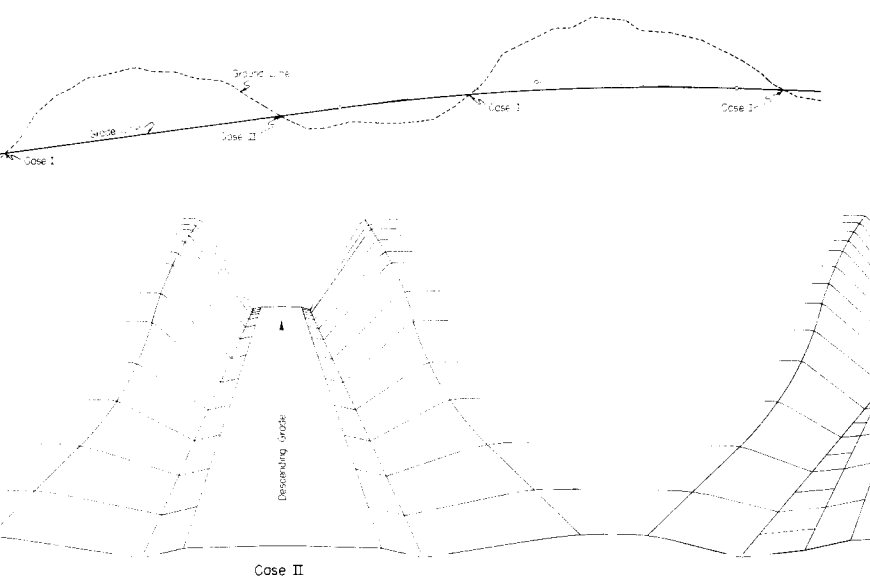


TYPICAL SECTION FOR APPROACH



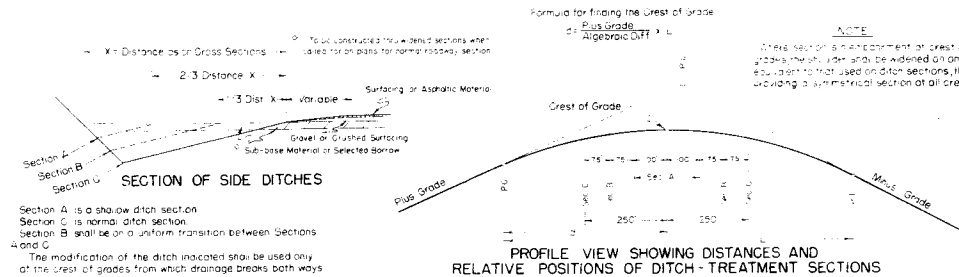
NOTE
 ROAD APPROACHES TO approach to the bridge shall be as shown in plans by Special Detail. The width of the crowned section shall be 20' less than the width of the approach, as shown in the plan. The approach shall be 20' less than the width of the approach (20' less than 20' = 0 feet) feet in width.

PLAN OF FLARING IN EARTH CUTS



DETAILS FOR DITCH & WIDENED SHOULDERS AT CREST OF GRADES

(TO BE USED ONLY WHERE SIGHT DISTANCE AT CREST OF GRADE IS 600 FT OR LESS)



GENERAL NOTES

- Work shall be done in accordance with the Standard Specifications of the Colorado Department of Highways applicable to the Project.
- Side approach roads to the Project shall be Gravel Surfaced with a minimum 4 inch thickness of Gravel or Crushed Rock Surfacing extending approx. 100 ft to the Right of Way. The Estimated tonnage & type of material required for this operation are shown in the Surfacing Plan. The maximum grades shown are to be limiting grades for all road approaches. Vertical curves of grades will be permitted where adherence to the grades as shown would cause damage to property of adjacent owner under ordinary conditions. Grades less than the maximum shown are to be used wherever feasible.

COLORADO DEPARTMENT OF HIGHWAYS

STANDARD SIDE APPROACH ROADS, FLARING, CUT SLOPE TREATMENT, AND WIDENING AT BRIDGES AND AT CREST OF GRADES

Designed by J.C. Made by S.M.S. Checked by C.R.S. Approved by A. Julian Date: November 1, 1952

PROJECT MARKER POST

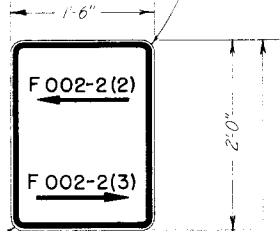
RIGHT OF WAY MARKER POST

STANDARD M-7-C

FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	102-238	125	

Rev 4-4-56, Added Bridge Bench Mark, J.C.R.

Metal Sign conforming to A.A.S.H.O. Manual on Uniform Traffic Control Devices. White Background, Black Letters & Symbols



NOTES FOR PROJECT MARKER POSTS

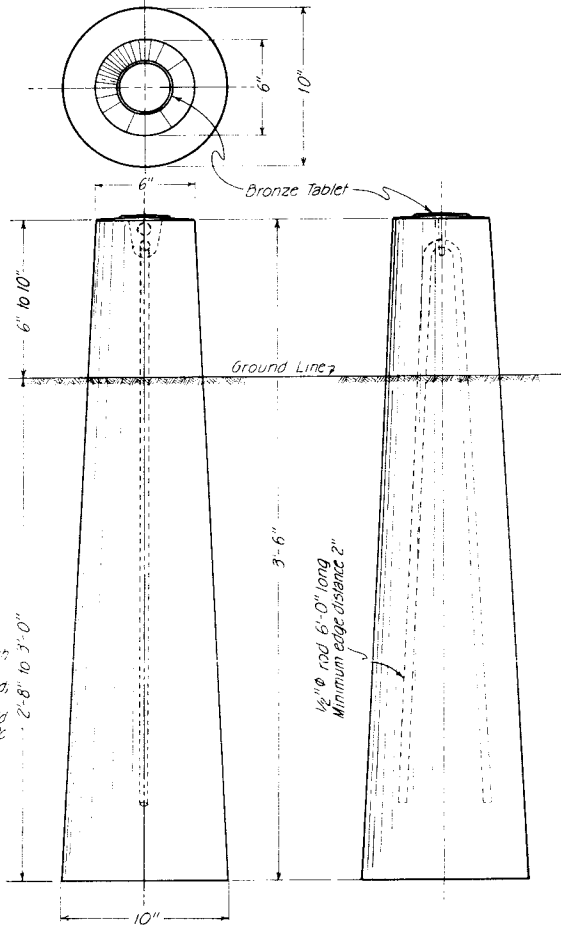
All work shall be done in accordance with the Standard Specifications of the Colorado Department of Highways applicable to this project.

Numbers and arrows shall show the proper numbers and directions of the projects each way from where the post is placed. Post is to be set with sign facing the road at the end of the project, two feet inside the P.O.W. line or at a point amply protected from traffic in such a position that the sign will indicate properly the projects to which it refers.

NOTES FOR R.O.W. MARKER POSTS

All work shall be done in accordance with the Standard Specifications of the Colorado Department of Highways applicable to the project. Posts shall be made of Class A Concrete. The upper 12 inches of marker posts shall be rubbed free of form marks, and the top surface of the post must be constructed to drain thoroughly.

All exposed surfaces of the bronze tablet are to be ground to a smooth surface. All letters are to be depressed a minimum of 1/16 inch. Information on the bronze tablet indicated by pin lines is to be stamped in field by the engineering party after post is placed. 3/16 inch letters and figures to be used. Project designations on tablets shall be properly shown (i.e., I for Fed Aid Interstate, F for Fed Aid Primary, S for Fed Aid Secondary, etc. C. for State Projects see detail below.)



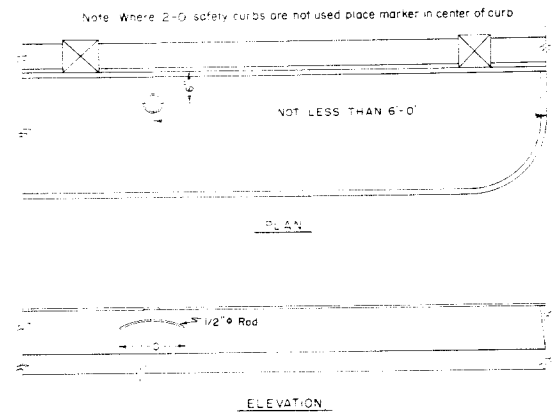
BENCH MARK

All work shall be done in accordance with Standard Specifications of the Colorado Department of Highways applicable to the project.

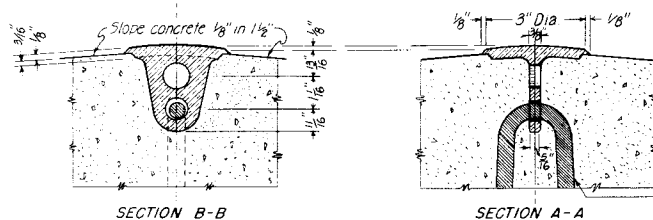
All exposed surfaces of the bronze tablet are to be ground to a smooth surface. All letters are to be depressed a minimum of 1/16 inch. Information on the bronze tablet indicated by pin lines is to be stamped in field by the engineering party after marker is placed. 3/16 inch letters and figures to be used. Project designation on tablets shall be properly shown (i.e., I for Fed Aid Interstate, F for Fed Aid Primary, S for Fed Aid Secondary, etc. C. for State Projects. See details below.)

Bronze Bench Mark Tablets will be furnished by the Department at no expense to the Contractor.

Installation of Bronze Bench Mark Tablets will not be paid for directly, but shall be included in the price bid for Concrete.



One marker to be placed on Bridges as shown. The station shown on marker shall be the center-line stationing directly opposite the marker.



DETAIL OF BRONZE TABLET FOR RIGHT OF WAY MARKER POST AND BENCH MARK

COLORADO DEPARTMENT OF HIGHWAYS
STANDARD MARKER POSTS AND BENCH MARKS
 Designed by R.E.L. Approved by E.O. Sullivan
 Made by E.E.O. Date: Nov. 12, 1953
 Checked by R.E.L.

REVISIONS
 Rev. 12-13-47 J.P.A.
 Rev. 7-1-49 J.E.R.
 Rev. 9-14-50 J.E.R.
 Rev. 7-10-52 T.M.C.
 Rev. 10-24-55 W.F.S.

STANDARD M-10-B.

FED. ROAD DIST. NO.	STATE	SHEET NO.	TOTAL SHEETS
3	COLO.	1002-232	60

1 2 3 4 5 6 7 8 9 0 .

A B C D E F G H I J K L

M N O P Q R S T U V W

a b c d e f g h i j k l m n o p q r s t u v w x y z

Scale in inches
 0 1 2 3

SECTION

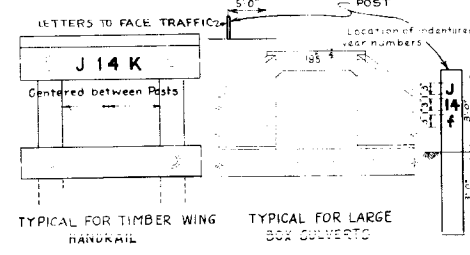
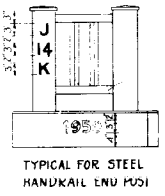
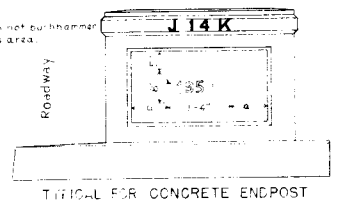
abcdefghijklmnopqrstuvwxyz

SAMPLE BRIDGE NUMBER

GENERAL NOTES

SAMPLE YEAR NUMBER

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE COLORADO DEPARTMENT OF HIGHWAYS APPLICABLE TO THE PROJECT.
 THE SIZE SHAPE AND SPACING OF THE LETTERS AND FIGURES SHALL BE IN ACCORDANCE WITH THE FULL SIZE SHOWN IN THIS SHEET.
 ADDITIONAL COPIES OF THIS FULL SIZE SHEET CAN BE OBTAINED FROM THE DEPARTMENT WITHOUT CHARGE.
 THE YEAR NUMBERS ARE RECESSED IN CONCRETE OR MINIMUM AS SHOWN, USE THE PANEL AS THE ENDPOST ON THE RIGHT HAND SIDE OF EACH BRIDGE END AND INTO THE FACE OF THE DOWNSTREAM HEADWALL OF CULVERTS AS SHOWN ON PLAN DETAILS.
 NUMBERS TO BE MADE OF WOOD METAL OR OTHER SUITABLE MATERIAL AND ATTACHED TO THE FORM BEFORE CONCRETE IS POURED.
 THE YEAR NUMBER OF EACH STRUCTURE SHALL CORRESPOND WITH THE YEAR IN WHICH THE CONCRETE IS POURED.
 THE STRUCTURE NUMBER SHALL BE STENCILED ON THE RIGHT HAND SIDE OF EACH BRIDGE END AS SHOWN IN TWO STANDARD AND AS SPECIFIED FOR MAJOR STRUCTURES OVER 20' CLEAR SPAN.
 THE CORRECT NUMBER FOR EACH BRIDGE IS SHOWN IN THE LOWER RIGHT HAND CORNER OF THE DETAIL SHEETS FOR THAT BRIDGE.
 A TROOP WHITE BACKGROUND RECTANGULAR IN SHAPE AND EXTENDING THREE INCHES BEYOND THE LIMITS OF THE NUMBER SHALL BE PAINTED WITH TWO COATS OF ACCEPTABLE WHITE PAINT UNLESS AN APPROVED WHITE CONCRETE PAINT IS USED. BEFORE PAINTING THE SURFACE MUST BE THOROUGHLY DRIED, CLEANED AND PROPERLY SET. ON TIMBER HANDRAILS THE WHITE PAINT USED ON THE BRIDGES WILL BE SATISFACTORY.
 AFTER THE WHITE BACKGROUND HAS DRIED SUFFICIENTLY THE CORRECT STRUCTURE NUMBER SHALL BE CAREFULLY STENCILED ON IT WITH TWO COATS OF SECOND COAT DARK OR EXTERIOR BLACK PAINT (MINIMUM) AS SPECIFIED UNDER ITEM 58 PAINTS AND PAINTING. THE BRACES OF THE STENCILED LETTERS AND FIGURES SHALL BE CAREFULLY FILLED IN BY HAND TO MAKE SOLID FIGURES.
 SUFFICIENT TIME BETWEEN SUCCESSIVE COATS SHALL BE ALLOWED TO PERMIT THOROUGH DRYING.
 MAJOR STRUCTURES WITH CLEAR SPANS 12 TO 20 FEET INCLUSIVE SHALL BE STENCILED WITH STRUCTURE NUMBER THUS: W-18-9 ON 4"x4"x6" TIMBER POST. THIS SHALL BE CONSIDERED SUBSIDIARY WORK AND WILL NOT BE PAID FOR AS A SEPARATE ITEM.



COLORADO
 DEPARTMENT OF HIGHWAYS
 STANDARD
 LETTERS AND FIGURES
 FOR
 YEAR NUMBERS AND
 STRUCTURE NUMBERS

Designed by W.P.M. Approved by *W.P.M.*
 Made by W.P.M. Bridge Engineer
 Checked by _____ Date: June 1, 1948

STRUCTURE NO

STANDARD TIMBER GUARD POSTS

REV. 4-20-55, Length of Posts, J.C.N. Rev. 7-10-56, Reflective Materials, L.N.P.

STANDARD M-19-D SPECIFICATIONS

FED. ROAD DISTRICT NO.	DISTRICT	SHEET NO.	TOTAL SHEETS
9	COLG.	1002-2-38	111

Rev. 5-13-53, Specifications, J.C.R.
Rev. 12-4-53, Date Nails Deleted, D.L.V.
Rev. 2-1-54, Delineation by State Forces, J.C.R.
All posts shall be pressure treated in accordance with specifications.

POSTS - Lodgepole Pine, Southern Yellow Pine or West Coast Douglas Fir, not less than six (6) inches in diameter. All posts shall be pressure treated with Pentachlorophenol as provided under paragraph 42.20 of the specifications, after being peeled and shaved in accordance with specifications.

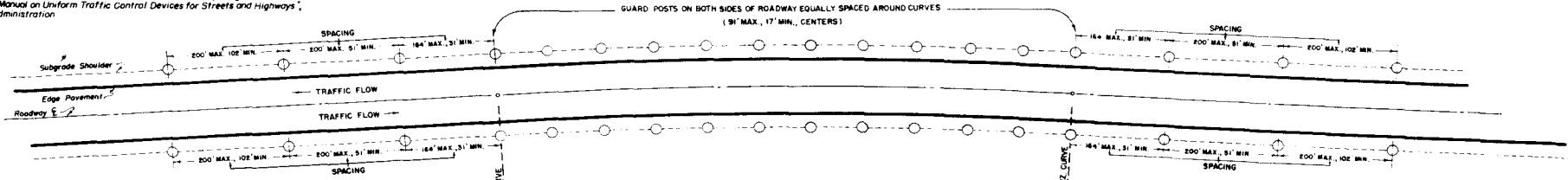
PAINTING - Posts shall be painted with aluminum paint and a black band placed around each post as per details on this sheet. Number of coats and type of paint applied shall be in accordance with specifications.

(Work By State Forces)

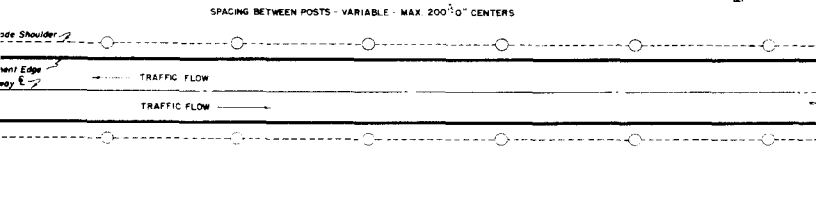
REFLECTIVE SHEETING - in accordance with the details hereon. State Forces will furnish and place the required 2"x6" smooth surfaced reflective delineators fabricated from 3x1/4 aluminum alloy, minimum thickness 0.025, reflectorized with reflective sheeting strips or other approved reflective materials. Strips shall be suitable for placement around a curved surface.

Typical Installation on Curves

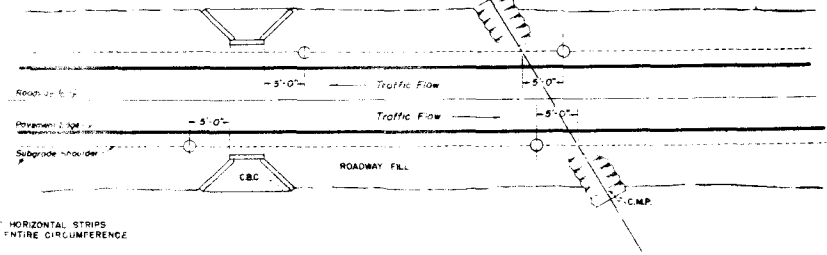
LOCATION of guard posts on curves shall be in accordance with details shown below. Spacing shall be in with Section 157, Table 1 of "Manual on Uniform Traffic Control Devices for Streets and Highways", 9, 1948 by the Public Roads Administration



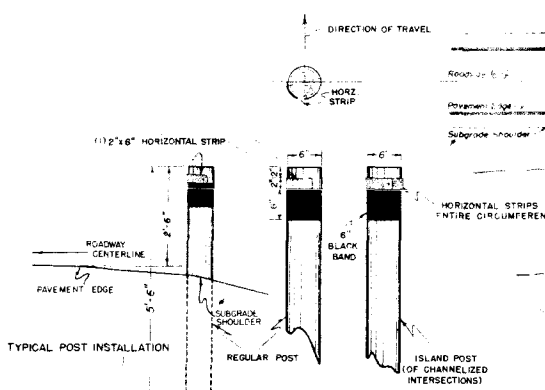
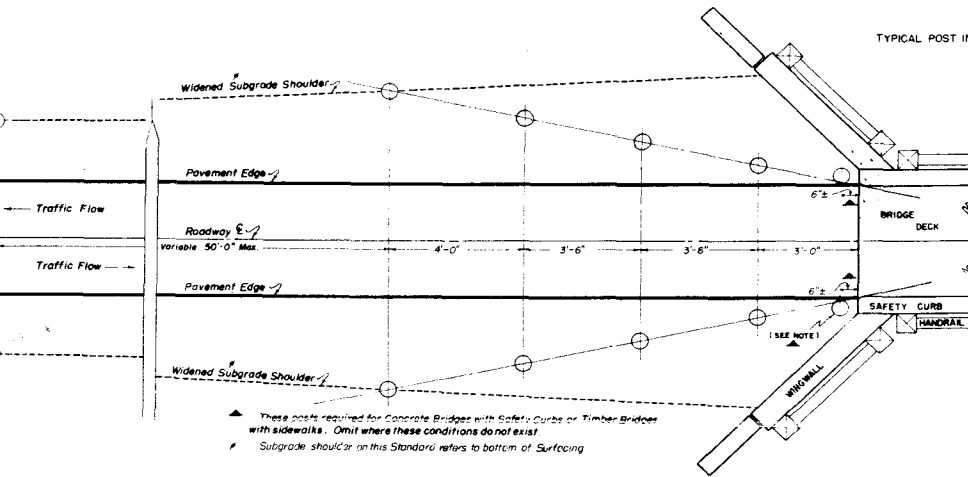
Method of Placement on Tangents



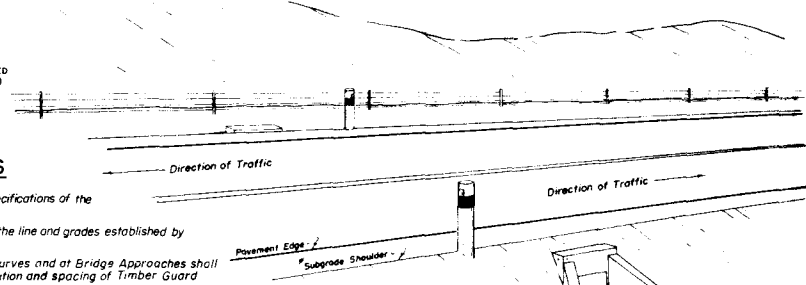
Plan View Showing Placement at Isolated Minor Structures



Typical Installation at Bridge Approaches



Pictorial View Showing Location at Isolated Minor Structures



INSTALLATION DETAILS OF REFLECTORIZED STRIPS

GENERAL NOTES

(Work By Contractor)
All work shall be done in accordance with the Standard Specifications of the Colorado Department of Highways applicable to the project.

(Work By State Forces)
All posts shall be set and tamped in, plumb and firm, to the line and grades established by the Engineer.

(Work By Contractor)
Installation of Timber Guard Posts on Tangents, Curves and at Bridge Approaches shall be in conformity with details on this sheet. The number, location and spacing of Timber Guard Posts is shown on plans.

(Work By State Forces)
Reflective delineators shall be furnished and installed by State Forces after the Contractor has finished his operations.

(Work By Contractor)
Installation of reflective delineators shall be in accordance with the following: Wrap Around Reflective Sheeting Strips shall be installed horizontally one (1) sheet on all posts. Island posts shall have Wrap Around Reflective Sheeting Strips placed horizontally to cover entire circumference of Post.

(Work By State Forces)
On Divided Highways and Islands, Reflective Sheeting Strips shall be placed in a manner to obtain maximum visibility for the primary direction of travel. In all instances tests shall be made to insure the maximum effectiveness of reflective delineators.

(Work By Contractor)
All Traffic Islands shall be marked with Island Posts as indicated hereon.

COLORADO DEPARTMENT OF HIGHWAYS

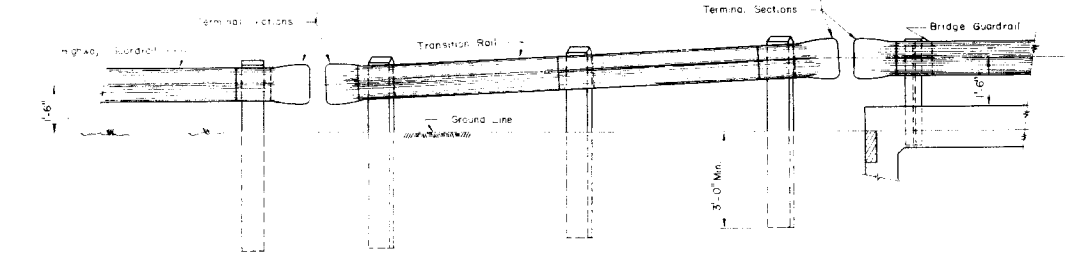
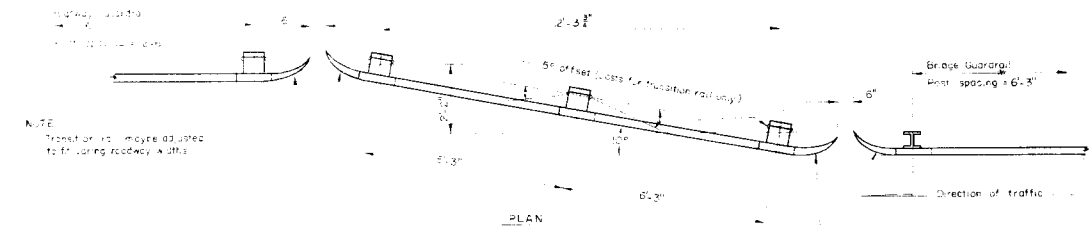
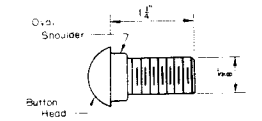
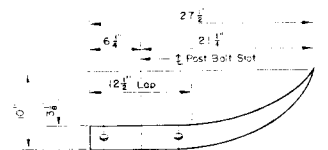
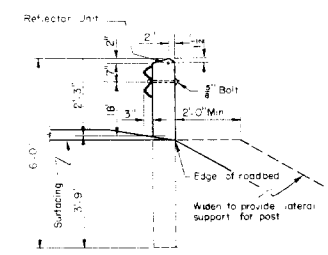
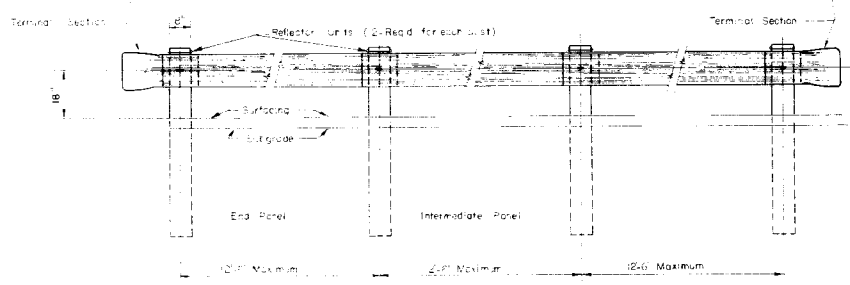
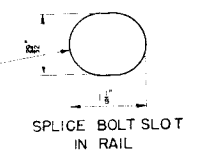
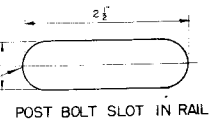
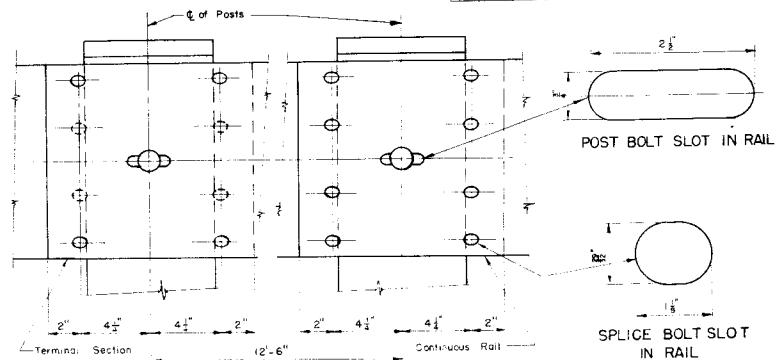
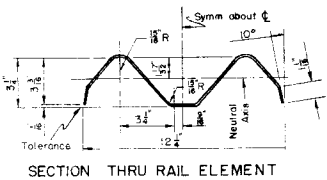
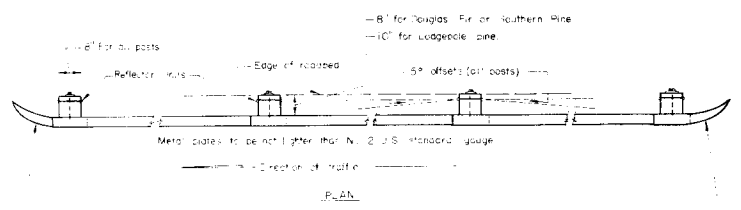
STANDARD TIMBER GUARD POSTS

Designed by _____
Made by _____
Checked by _____

Approved by _____
Date: March 25, 1948

STANDARD M-21-C

FED. ROAD DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	100-8	2	2



GENERAL NOTES

All work shall be done according to the Standard Specifications of the Colorado Department of Highways applicable to the project.

All wood posts shall be close grained Douglas Fir of the Coast Region, Dense Longleaf or Shortleaf Southern Pine or Lodgepole Pine.

All wood posts shall be square edged, full sawn, with tops beveled as shown. All bolt holes are to be drilled 1/8 inch larger than diameter of bolt before treatment is applied. All wood posts shall be pressure treated for the full length of the posts as provided for in the specifications.

Timber posts fabricated from Douglas Fir or Southern Pine shall be 8"x8" square. Timber posts fabricated from Lodgepole Pine shall be 8"x10" and shall be installed with the 8" face parallel to the center line of the roadway.

All wood posts shall be set and tamped in plumb and firm to the lines and grades as directed by the engineer. Metal plates shall be galvanized, but shall be painted as provided for in the specifications.

Metal plates shall not be lighter than No. 2 U.S. standard gauge. The length of guard fence to be paid for and designated as posts shall be measured from center to center of end posts.

Standard galvanized cast iron 20 or galvanized malleable cast washers shall be used under all bolt heads and nuts coming in contact with wood posts.

Where side walks are constructed adjacent to the lane for traffic guard fence shall be placed in such a manner that the fence lies on the line between the sidewalk and the normal roadway shoulder.

Where guard fences are constructed on the approaches to bridges with sidewalks, the fence at bridge shall be placed on line with the face of the curb of the bridge.

Reflector units shall be "Signal Service" No. ALA-111 (White crystal) of the Signal Service corporation, Elizabeth, New Jersey, or an acceptable equivalent.

Reflector units in all posts shall be placed in such a position that the units will function at a distance of 500 feet.

On tangents the Reflector units shall be placed on an angle of approximately five degrees to a line parallel to the centerline of the highway.

In all instances a test shall be made to assure the position of the Reflector units to be the most effective possible.

The diameter of holes drilled in posts shall be approximately one sixteenth (1/16) inch less than the diameter of the signal button base. In all instances the hole shall be enough under the button when driven into the post, shall have complete bond with the post, and be securely locked in the correct position.

COLORADO
DEPARTMENT OF HIGHWAYS
STANDARD
METAL PLATE GUARD FENCE
(BEAM TYPE)

Prepared by: [Signature]
Checked by: [Signature]
Date: 12/15/1956

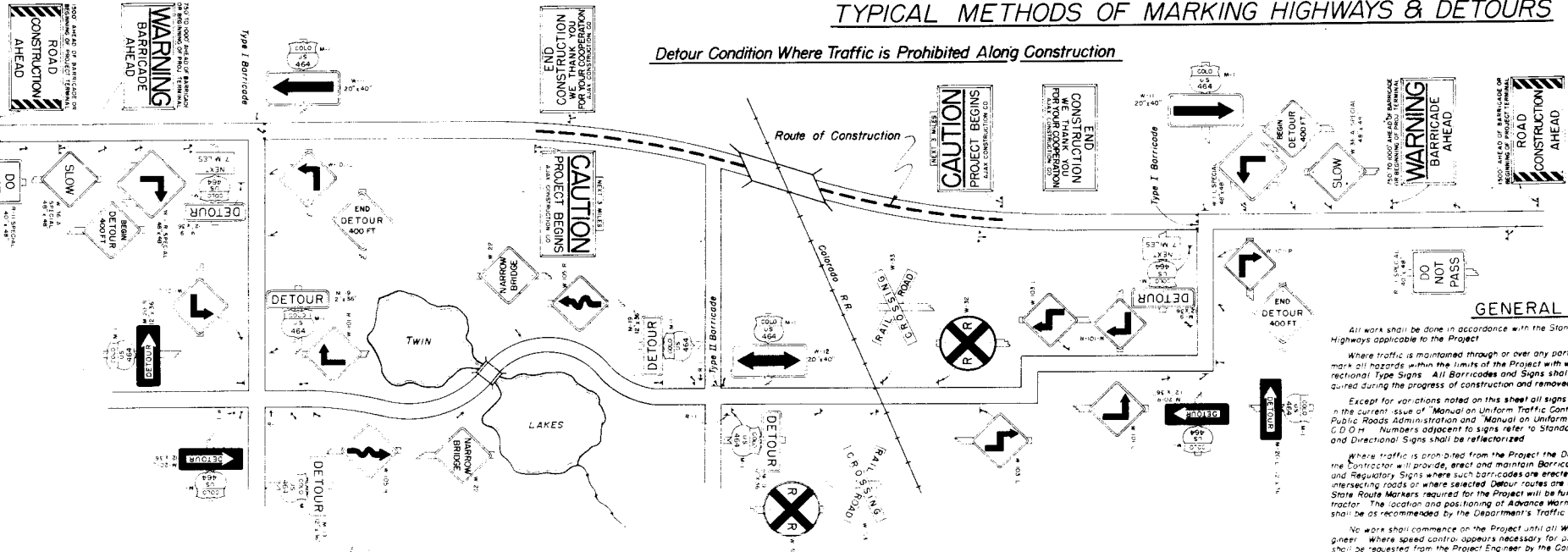
STANDARD ROADWAY CONSTRUCTION TRAFFIC SIGNS

STANDARD M-29-B
(SHEET 1 OF 2 SHEETS)

FED. ROAD DIV. NO.	DISTRICT	SHEET NO.	TOTAL SHEETS
9	COLO.	1002-2(38)	15

TYPICAL METHODS OF MARKING HIGHWAYS & DETOURS

Detour Condition Where Traffic is Prohibited Along Construction



GENERAL NOTES

All work shall be done in accordance with the Standard Specifications of the Colorado Department of Highways applicable to the Project.

Where traffic is maintained through or over any part of the Project, the Contractor will be required to mark all hazards within the limits of the Project with well maintained Barricades, Warning Signs and Directional Type Signs. All Barricades and Signs shall be moved, added to, changed or removed as required during the progress of construction and removed entirely when project is completed.

Except for variations noted on this sheet all signs will be in conformity with the specification outlined in the current issue of "Manual on Uniform Traffic Control Devices for Streets & Highways" by the U.S. Public Roads Administration and "Manual on Uniform Traffic Control Devices for Streets and Highways," C.D.O.H. Numbers adjacent to signs refer to Standards in the manual. Standard Warning, Regulatory and Directional Signs shall be reflectorized.

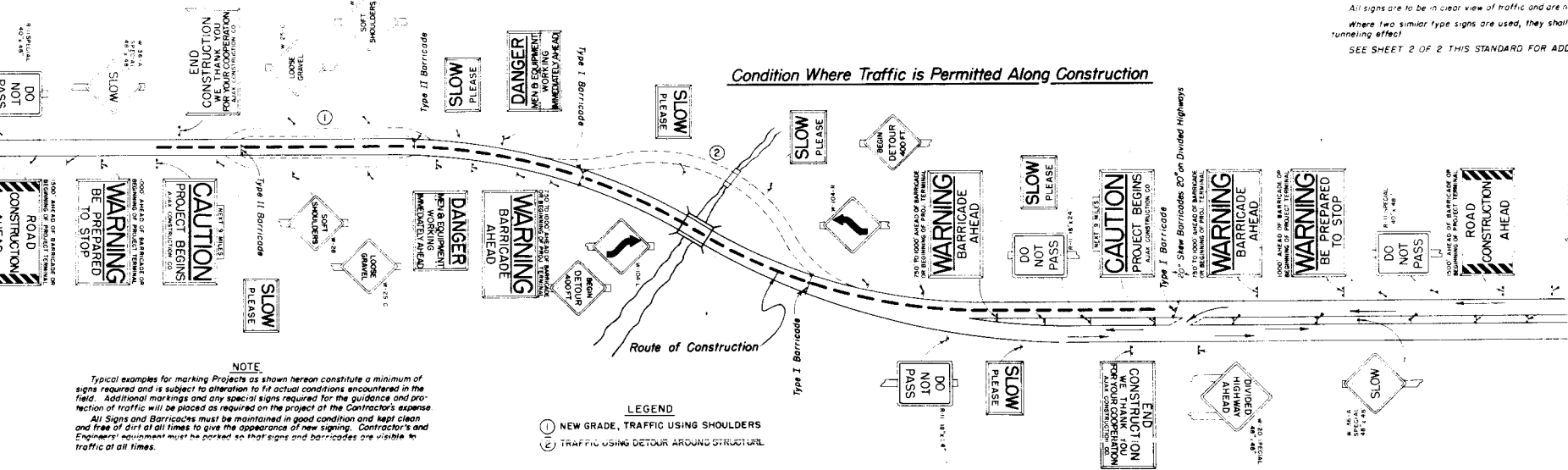
Where traffic is prohibited from the Project the Detour will be marked by the Department except that the Contractor will provide, erect and maintain Barricades complete with approved Directional Arrows and Regulatory Signs where such barricades are erected and maintained at the ends of the Project and intersecting roads or where selected Detour routes are in advance of the actual project terminal. U.S. or State Route Markers required for the Project will be furnished by the Department and installed by the Contractor. The location and positioning of Advance Warning Signs, Barricades and Speed Control Signs shall be as recommended by the Department's Traffic Operations Section.

No work shall commence on the Project until all Warning Signs are in place and approved by the Engineer. Where speed control appears necessary for protection of the traveling public, such speed limits shall be requested from the Project Engineer by the Contractor.

All signs are to be in clear view of traffic and are not to be obstructed by equipment, weeds or otherwise. Where two similar type signs are used, they shall be placed approximately 75 feet apart to avoid a tunneling effect.

SEE SHEET 2 OF 2 THIS STANDARD FOR ADDITIONAL NOTES AND DETAILS.

Condition Where Traffic is Permitted Along Construction



NOTE

Typical examples for marking Projects as shown hereon constitute a minimum of signs required and is subject to alteration to fit actual conditions encountered in the field. Additional markings and any special signs required for the guidance and protection of traffic will be placed as required on the project at the Contractor's expense. All Signs and Barricades must be maintained in good condition and kept clean and free of dirt at all times to give the appearance of new signing. Contractor's and Engineer's equipment must be parked so that signs and barricades are visible to traffic at all times.

LEGEND

- ① NEW GRADE, TRAFFIC USING SHOULDERS
- ② TRAFFIC USING DETOUR AROUND STRUCTURE

COLORADO
DEPARTMENT OF HIGHWAYS
Standard Roadway
Construction Traffic Signs

Designed by JCR
Made by JCR
Checked by
Approved by J. Johnson
Engineer, Survey & Plans
Date: July 27, 1955

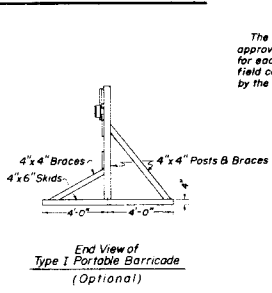
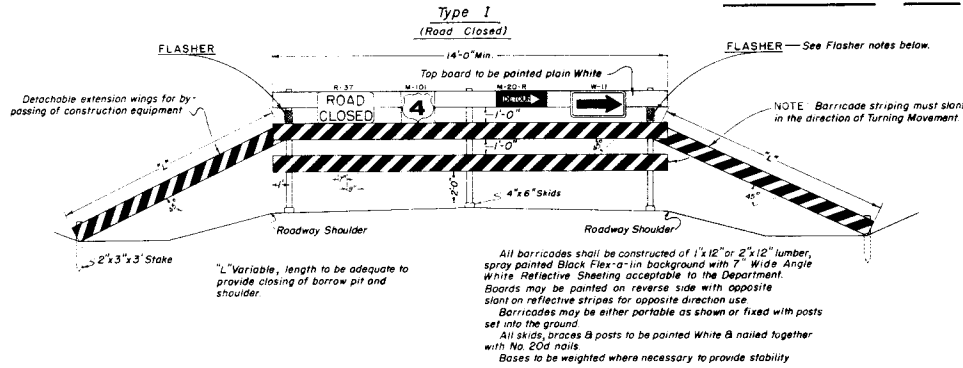
STANDARD ROADWAY CONSTRUCTION TRAFFIC SIGNS

STANDARD M-29-B
(SHEET 2 OF 2 SHEETS)

FED. ROAD DIV. NO.	DISTRICT	SHEET NO.	TOTAL SHEETS
8	COLO.	1092-2389 14	

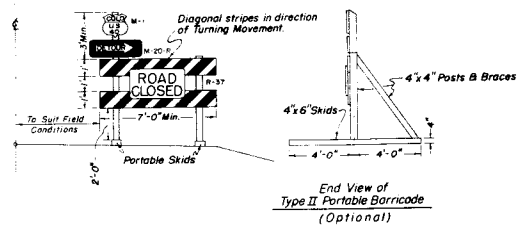
Rev. 7-10-56, Reflective Materials, L.N.P.

DETAILS OF BARRICADES



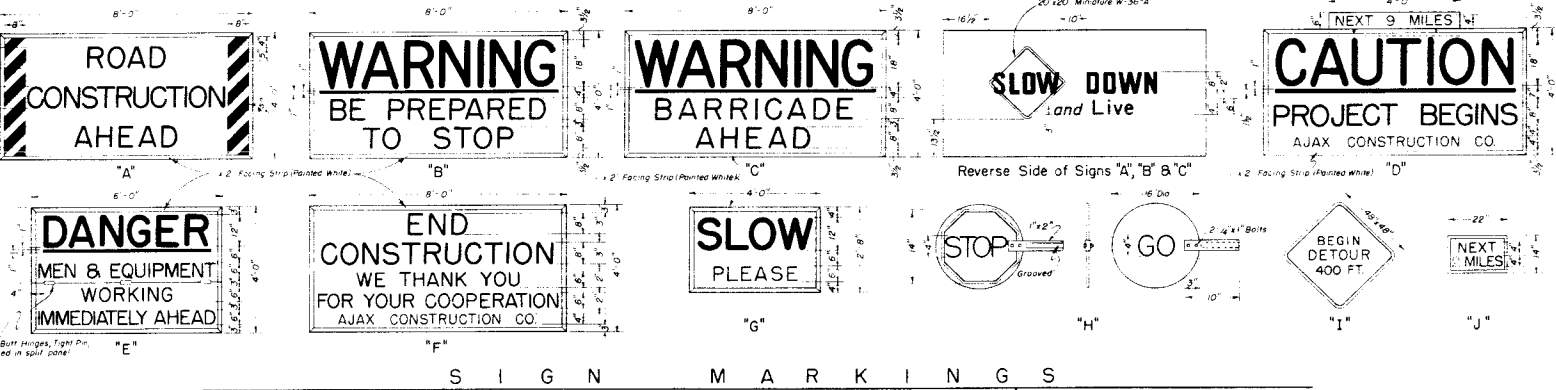
NOTE
The various types & combinations of approved signs for barricades required for each project will be governed by field conditions and subject to approval by the Engineer.

Type II (Beg. of Detour, By-Pass Areas within Proj; Extreme Hazards, etc.)

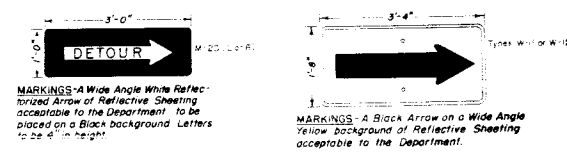


NOTE: Alternate materials or other reflecting elements on Construction Traffic Signs and Barricades will be permitted only after approval of such material by the Department.

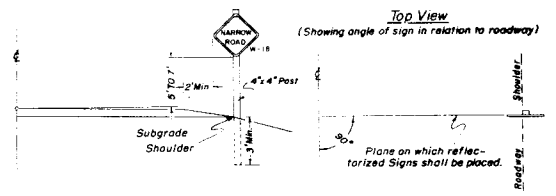
DETAILS OF CONSTRUCTION SIGNS



Details of Reflectorized Arrows



Position of Signs Relative to Roadbed & Hazards



Construction Signs "A" through and including "G" shall be made of 3/8" Plywood or other material after approval by the Department, and as per details above. Signs shall be reflectorized with reflective sheeting or other reflective materials of types approved by the Department.

CONSTRUCTION SIGN "A" - Wide Angle White background with painted Black lettering. Barricade stripes of 4" Wide Angle White placed over Black painted vertical stripes spaced as shown above. This sign is the First advance warning sign and shall be placed 1500 feet ahead of barricade or beginning of project terminal and on both sides of the travelled way in all cases.

CONSTRUCTION SIGN "B" - The word "WARNING" and "I" underline shall be painted white on a 23" strip of Wide Angle Flat Top Red. Balance of lettering painted Black on a 22" strip of Wide Angle White. This sign is the Second advance warning sign and shall be placed 1000 feet ahead of barricade or beginning of project terminal and on both sides of the travelled way on divided highways and singly on two-lane highways.

CONSTRUCTION SIGN "C" - The word "WARNING" and "I" underline shall be painted white on a 24 1/2" strip of Wide Angle Flat Top Red. Balance of lettering painted Black on a 20 1/2" strip of Wide Angle White. This sign will be provided with a detachable "I" material board mounted on 2" x 2" bolts. This board shall be painted white with Black lettering. (Indicate to the nearest Mile). This sign shall be placed to mark the beginning of the Project. To be placed singly and may be placed opposite barricade if desirable.

CONSTRUCTION SIGN "E" - The word "DANGER" and "I" underline shall be painted white on a 17 1/2" strip of Wide Angle Flat Top Red. Balance of lettering painted Black on a

27 1/2" strip of Wide Angle White. The sign is of the hinged and fold type to facilitate the closing down of sign when the need is not prevalent. This sign shall be placed 500 feet ahead of the situation on hand.

CONSTRUCTION SIGN "F" - The words "END CONSTRUCTION" and "CONTRACTORS NAME" shall be painted Black on strips 22" and 6 1/2" respectively of Wide Angle White. Balance of lettering shall be painted White on a 16 1/2" strip of Wide Angle Flat Top Red. This sign shall be placed to mark the Ending of the Project. To be placed singly and may be placed opposite barricade if desirable.

CONSTRUCTION SIGN "G" - The words "SLOW" and "I" underline shall be painted Black on a background of Wide Angle Yellow. This sign shall be used frequently within the limits of the Project.

All of the preceding signs shall be fastened to 2-4" x 4" posts set 4 feet in the ground with a minimum of 3-1/2" x 4" nailing strips on the back. Bottom of sign to be not less than 36" above ground.

ELASMAN WARNING SIGN "H" - This sign shall be made of Plastic or other light-weight material, painted Red background with White lettering on the "STOP" side and painted Green background with White lettering on the "GO" side. Handle to be grooved on one side to indicate reading of sign to flagman. This sign will be used whenever flagmen are necessary. Sign to be reflectorized, if used to stop traffic at night.

DETOUR WARNING SIGN "I" - To be of 3/8" (Minimum) plywood or No. 16 (Minimum) gauge metal with Black painted letters on a Wide Angle Yellow background.

CONSTRUCTION SIGN "J" - 3/4" x 9" metal slides to be placed between "NEXT" - MILES - spaced so as to accommodate appropriate size numerals. Required numerals to be furnished by the Department and to be installed by the Contractor. Numerals calculated to the nearest Mile.

All material shall be sound and durable. Barricades, signs, symbols and lettering conforming to styles noted hereon will be of good workmanship and well maintained. Uneven lettering will not be accepted.

Flares and Torches shall be of the oil burning type approved by the Department and

shall be placed 3 feet to 5 feet ahead of the object to be illuminated. Particular care shall be taken to protect all signs and barricades from smoke and smudge arising from the use thereof.

Flashers used on Type I Barricade shall be of the Battery or Electrical Type. The Illuminating element in a flashing amber beacon or signal shall be flashed continuously at a rate between 50 or 60 flashes per minute which will be clearly distinguishable to traffic. The duration in which Flashers will be left in operation will be governed by field conditions and subject to approval by the Engineer.

Alternate methods of processing signs or the substitution of pressure sensitive symbols or other reflecting elements for painted symbols will be permitted only after approval of such methods or materials by the Department.

The Department shall furnish and install the following as required outside the limits of the Project:

1. All Barricades..... Minimum 4
2. "ROAD CONSTRUCTION AHEAD"..... Minimum 2
3. "WARNING BE PREPARED TO STOP"..... As Required
4. "WARNING BARRICADE AHEAD"..... As Required
5. Standard Warning B Directional Signs..... As Required

The Contractor shall furnish and install the following as required within the limits of the Project:

1. All Barricades..... As Required
2. "CAUTION PROJECT BEGINS"..... Minimum 2
3. "DANGER MEN & EQUIPMENT WORKING IMMEDIATELY AHEAD"..... As Required
4. "END CONSTRUCTION WE THANK YOU FOR YOUR COOPERATION"..... Minimum 2
5. "SLOW PLEASE"..... As Required
6. Standard Warning B Directional Signs..... As Required
7. Approved Directional Arrows & Regulatory Signs for Barricades..... As Required
8. Torches and Flares as follows: Type I Barricade..... Minimum 3
Type II Barricade..... Minimum 1
9. Flashers - Type I Barricade..... 2 Required

COLORADO DEPARTMENT OF HIGHWAYS

Standard Roadway Construction Traffic Signs

Designed by J. C. R. Approved by J. C. R.
Made by J. C. R. Engineer, Surveys & Plans
Checked by J. C. R. Date: July 22, 1955

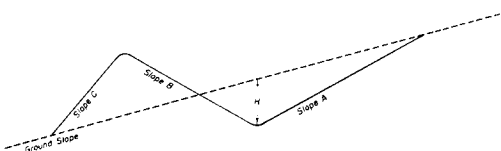
STANDARD TYPES *of* DITCHES *and* CONSTRUCTION METHODS

STANDARD M-107-C

DIVISION NO.	DISTRICT	PROJECT NO.	SHEET NO.
9.	C.O.L.O.	1202-236	115

DETAILS *for* CONTOUR INTERCEPTING DITCHES

Typical Section for Contour Intercepting Ditches



PURPOSE & USE OF THE TABLE

The primary purpose of the information for Contour and Intercepting Ditches shown on this sheet is to serve as a guide in construction and to readily arrive at yardages of excavation involved. Foremost consideration in constructing these ditches is given first to the natural ground line slope confronted in construction, thence to the other values shown on the Typical Section. By properly arriving at the combination of values shown on the Typical Section and in the Table for a specified condition, the number of cubic yards of excavation per 100 lin ft of ditch may be read under the appropriate column for this item.

Typical Construction Layouts

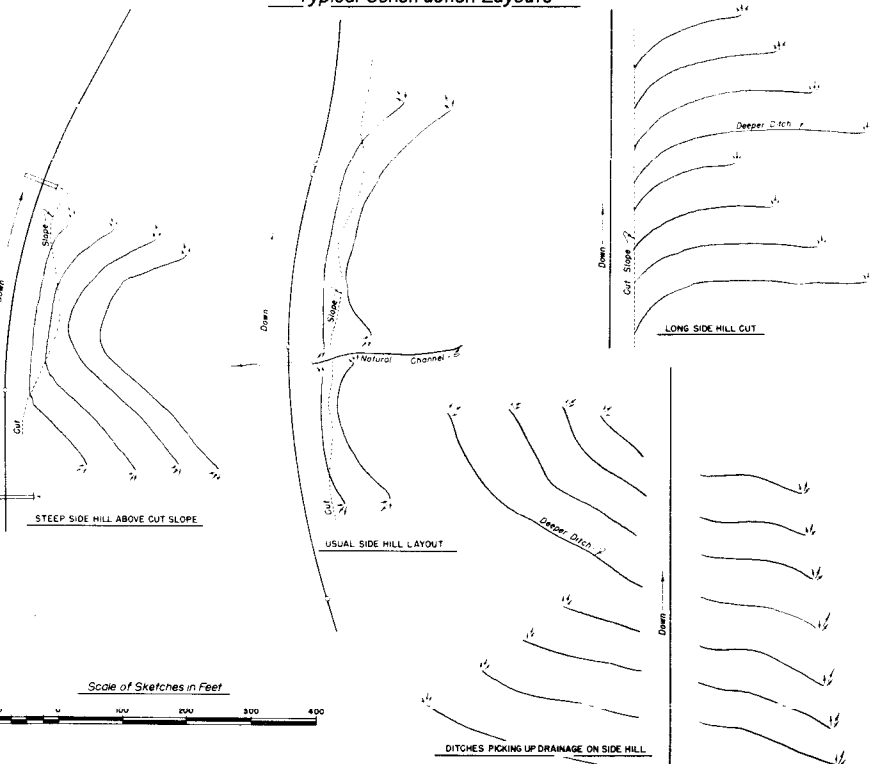
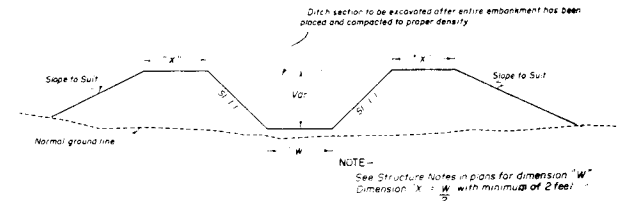


Table of Slopes and Yardages

Ground Or Flatter	SLOPES			H	Cubic Yards per 100 lin ft of Ditch		
	A	B	C				
5:1	2:1	4:1	2:1	15"	16		
				18"	23		
				21"	32		
		3:1	2:1	15"	15		
				18"	22		
				21"	30		
	1-1/2:1	2:1	1-1/2:1	15"	14		
				18"	20		
				21"	27		
		1-1/2:1	4:1	1-1/2:1	15"	13	
					18"	19	
					21"	25	
4:1	1-1/2:1	4:1	1-1/2:1	15"	12		
				18"	18		
				21"	25		
		3:1	2:1	1-1/2:1	15"	12	
					18"	17	
					21"	23	
	2:1	1-1/2:1	4:1	1-1/2:1	15"	10	
					18"	15	
					21"	20	
		1-1/2:1	2:1	4:1	1-1/2:1	15"	10
						18"	14
						21"	19
3:1	2:1	4:1	2:1	15"	17		
				18"	25		
				21"	34		
		3:1	2:1	1-1/2:1	15"	17	
					18"	24	
					21"	32	
	1-1/2:1	2:1	1-1/2:1	1-1/2:1	15"	15	
					18"	21	
					21"	29	
		1-1/2:1	4:1	1-1/2:1	1-1/2:1	15"	13
						18"	18
						21"	25
2:1	1-1/2:1	3:1	1-1/2:1	15"	12		
				18"	17		
				21"	23		
		2:1	1-1/2:1	4:1	1-1/2:1	15"	11
						18"	16
						21"	21
	1-1/2:1	2:1	3:1	2:1	15"	10	
					18"	14	
					21"	20	
		1-1/2:1	2:1	1-1/2:1	1-1/2:1	15"	15
						18"	22
						21"	30
3:1	2:1	3:1	2:1	15"	31		
				18"	43		
				21"	57		
		1-1/2:1	2:1	1-1/2:1	1-1/2:1	15"	21
						18"	31
						21"	41
	1-1/2:1	1-1/2:1	3:1	1-1/2:1	15"	20	
					18"	29	
					21"	40	
		1-1/2:1	2:1	1-1/2:1	1-1/2:1	15"	13
						18"	19
						21"	26
2:1	1-1/2:1	2:1	1-1/2:1	15"	12		
				18"	17		
				21"	24		
		1-1/2:1	2:1	1-1/2:1	1-1/2:1	15"	12
						18"	17
						21"	23
	1-1/2:1	1-1/2:1	2:1	1-1/2:1	15"	20	
					18"	29	
					21"	40	
		1-1/2:1	1-1/2:1	1-1/2:1	1-1/2:1	15"	20
						18"	28
						21"	39
1-1/2:1	1:1	2:1	1:1	15"	9		
				18"	13		
				21"	17		
		1-1/2:1	1-1/2:1	1-1/2:1	1-1/2:1	15"	13
						18"	18
						21"	24
	1-1/2:1	1:1	1-1/2:1	1:1	15"	11	
					18"	16	
					21"	21	

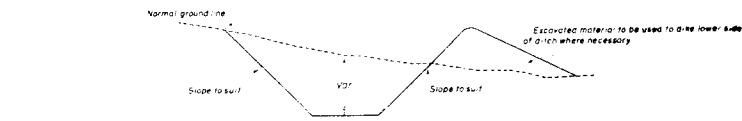
▲ Slopes are approximate and may be varied to suit conditions encountered during construction

TYPICAL SECTIONS *for* DRAINAGE, IRRIGATION DITCHES *and* CHANNEL CHANGES



For Embankment Sections

(Generally for use in Irrigation Ditches & Channel Changes)



For Cut Sections

GENERAL NOTES

- All work shall be done in accordance with the Standard Specifications of the Colorado State Highway Department applicable to the Project.
- All ditches are to be constructed to lines and grades as staked by the Engineer, using the ditch section shown on plans or as ordered by the Engineer.
- CONTOUR INTERCEPTING DITCHES - Ditches are to be laid out along the ground contour on a grade of not over 1% (Type of soil shall govern the grade).
- Ends of ditches are to be lined up so that concentration of flow from a higher contour ditch into one of lower contour is, as far as possible avoided. The use of a deeper ditch is recommended where this condition is encountered.
- The following horizontal spacing of ditches is recommended:
 - 4% to 6% Approximately 70' Centers
 - 8% to 10% Approximately 60' Centers
 - 20% to 4:1 Slope Approximately 55' Centers
 - 30% to 1-1/2:1 Slope Approximately 50' Centers
- Where ditch checks are required the intervening ditch between one set of ditch checks shall not exceed a grade of 1.0%. Details of checks will be shown on plans when required.

COLORADO STATE HIGHWAY DEPARTMENT

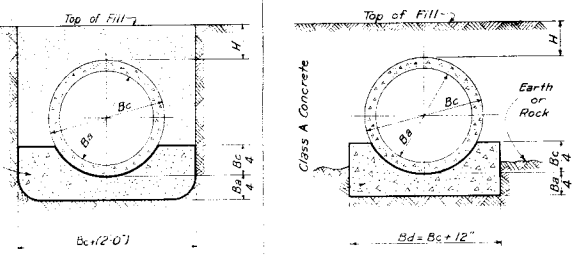
Standard Types of Ditches and Construction Methods

Designed by GCM Approved by *M. L. ...*
 Made by GCM Engineer, *George B. ...*
 Checked by Date *4. 11. 50*

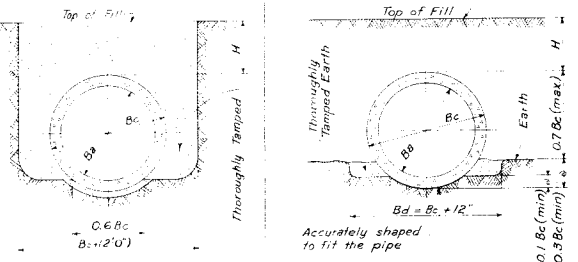
STANDARD M-112-E

FED. ROAD DIST. NO.	DISTRICT	PROJECT NO.	SHEET NO.
9	COLO.	112-1-49	112

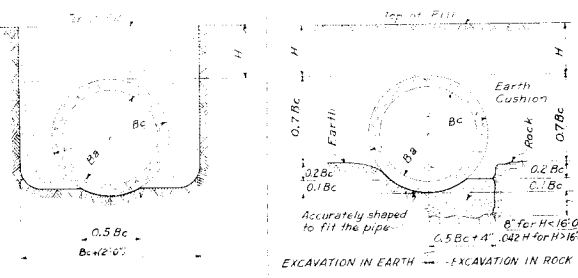
Rev. by P.C. 7-1-52 Added 84" Pipe
Rev. by RTT 3-6-56 Backfill of Excavation



CONCRETE CRADLE BEDDING IN TRENCHES
CONCRETE CRADLE BEDDING IN FILLS

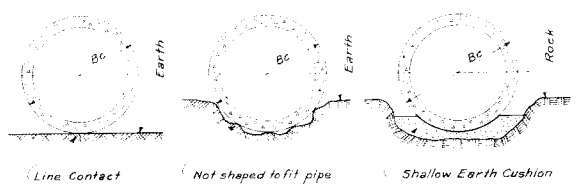


FIRST CLASS BEDDING IN TRENCHES
FIRST CLASS BEDDING IN FILLS

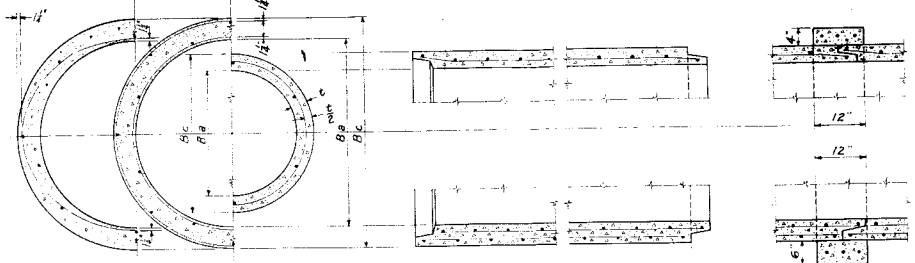


ORDINARY BEDDING IN TRENCHES
ORDINARY BEDDING IN FILLS

Backfill to conform to the requirements shown under "Structure Backfill and Mechanical Tamping Diagram."



IMPERMISSIBLE BEDDINGS IN TRENCHES OR FILLS
THESE THREE TYPES SHALL NOT BE USED

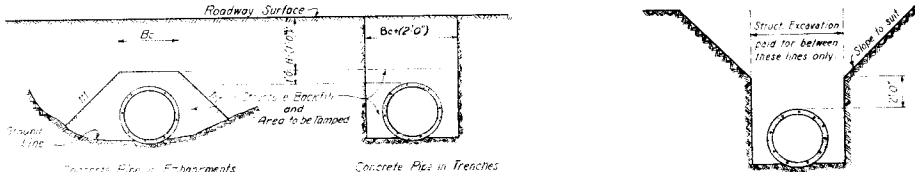


PIPE CROSS SECTIONS
LONGITUDINAL SECTIONS

Where two lines of steel are contemplated a single line placed elliptically may be used and the area of this shall be at least 50% of the total steel area required for two lines of reinforcement. Pipe with elliptical reinforcing shall have the word "Top" or "Bottom" clearly stenciled on the inside of the pipe at the correct place to indicate the proper position when laid.

Not less than 3 ft or more than 8 ft in length.

If machine made pipe is used a modified bell will be acceptable to the department.



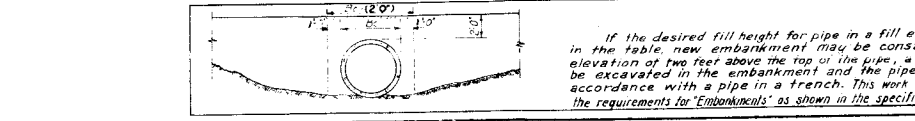
STRUCTURE BACKFILL AND MECHANICAL TAMPING DIAGRAM

All material that is to be mechanically tamped shall be placed in horizontal layers not more than 6 inches in depth and tamped before the next layer is placed.

Backfill for all types of bedding shall be brought up uniformly on each side of the pipe to maintain equal lateral pressures against the pipe. Structure Backfill shall conform to the specifications for Class 1 Backfill.

Where a firm foundation is not encountered due to soft spongy or other unsuitable material all such unsuitable material under the pipe for a width of (2Bc + Bc) shall be removed and the area backfilled with suitable material approved by the Engineer, and compacted at optimum moisture to a relative density not less than 90% to provide additional support for the pipe.

Where suitable material is encountered in place in the foundation but the relative compaction does not meet the minimum requirements this material shall be removed and recompact at optimum moisture and to at least 90% relative density.



If the desired fill height for pipe in a fill exceeds that given in the table, new embankment may be constructed to an elevation of two feet above the top of the pipe, a trench dug there, excavated in the embankment and the pipe installed in accordance with a pipe in a trench. This work shall conform to the requirements for "Embankments" as shown in the specifications.

CONCRETE COLLAR

Where the flow line grade of the pipe is 1/2" or greater, all pipe shall be the bell and spigot type or shall be tongue and groove pipe with concrete collars as detailed above or a type approved in writing by the Engineer.

Bd Int. Ext.	Bc	Three Edge Crack	Ultimate Load (Pounds)	Max. depth of fill "H" in ft for 3 types of beddings		Trench	Trench	Trench
				Pipe	Pipe			
12	16	2250	3500	30	19	15	10	10
18	23	2625	4065	28	18	15	10	10
18	33	3000	4500	28	18	15	10	10
24	36	3000	5000	22	14	10	10	10
30	37	3375	5750	21	14	10	10	10
36	44	4050	6600	21	14	10	10	10
42	51	4725	7350	27	17	14	10	10
48	58	5400	8000	26	17	14	10	10
54	65	5850	9000	36	22	17	14	10
60	72	6000	10000	32	21	15	14	10
66	79	6300	11000	28	20	15	13	10
72	86	6600	12000	26	20	14	13	10
84	100			24	20	13	13	10
24	30	4000	6000	29	No Limit	18	No Limit	15
30	37	5000	7500	30	No Limit	19	No Limit	15
36	44	6000	9000	30	40	19	22	16
42	51	7000	10500	31	40	20	22	17
48	58	8000	12000	31	37	20	23	17
54	65	9000	13500	32	36	20	23	17
60	72	9000	15000	29	28	19	20	15
66	79	9500	16500	28	26	19	18	15
72	86	9900	18000	24	28	24	18	15
84	100			4	28	22	18	15
12	16	1800	2700	24	No Limit	15	25	10
15	18	2000	3000	22	No Limit	14	19	12
18	23	2200	3300	21	48	13	16	11
21	28	2400	3600	20	28	13	14	11
24	30	2400	3600	18	18	12	12	10
27	33	2550	3800	18	17	11	11	10
30	37	2700	4050	17	15	11	10	9
33	42	2850	4200	17	14	11	10	9
36	44	3000	4500	22	16	11	7	9
42	51	3200	4800	19	16	10	7	9
48	58	3400	5100	17	15	9	10	7
54	65	3700	5550	17	15	9	10	7
60	72	3900	6000	16	15	9	10	7
66	79	4200	6300	16	15	9	10	6
72	86	4500	6750	15	15	8	10	6
4	5	1000		35		24	No Limit	20
6	7	100		28		18	No Limit	17
8	9	1300		28		18	No Limit	15
10	11	1400		25		16	27	13
12	14	1500		23		14	19	12
15	17	1750		21	No Limit	13	16	11
18	21	2000		21		13	15	11
21	24	2200		20	27	12	14	11
24	28	2400		19	22	12	13	10

GENERAL NOTES

All work shall be done according to the Standard Specifications of the Colorado State Highway Department applicable to the project.

Reinforced Concrete Culvert Pipe shall conform to A.A.S.H.O. M11-49.

Reinforced Concrete Sewer Pipe shall conform to A.A.S.H.O. M11-49.

Unreinforced Concrete Sewer Pipe shall conform to A.A.S.H.O. M11-49.

The type of pipe joint used and the field construction there-of to make the joint reasonably water-tight shall be submitted to the Department for approval.

Unless otherwise noted the type of bedding shall be Ordinary Bedding. When the maximum fill height as noted herein, for this type of bedding is exceeded then that type of bedding which is indicated by the allowable fill height shall be used.

All culverts shall have roadways or lanes and sections if and as shown on the plans in accordance with Department Standards.

For size, type and location of pipe see plan sheets for project.

Supporting soils shall be composed of firm and uniform material throughout the entire length of Culvert. The soil shall be accurately shaped to fit the pipe in accordance with the bedding conditions shown. The pipe shall be laid with the Bell or Groove end placed upstream.

If the desired fill height for pipe in a fill exceeds that given in the table, new embankment may be constructed to an elevation of two feet above the top of the pipe, a trench dug there, excavated in the embankment and the pipe installed in accordance with a pipe in a trench. This work shall conform to the requirements for "Embankments" as shown in the specifications.

Minimum depth of fill over Concrete Pipe shall be two feet.

* Note: External diameter of pipe shown in the table is approximate only, having been determined by using 3000 lbs per sq in concrete. If greater strength concrete is used this diameter may be decreased accordingly.

COLORADO STATE HIGHWAY DEPARTMENT

REINFORCED CONCRETE CULVERT PIPE
STD STRENGTH 12, 15, 18, 24, 30, 36, 42,
48, 54, 60, 66, 72, 84"

EXTRA STR 24, 30, 36, 42, 48, 54, 60, 66, 72, 84"

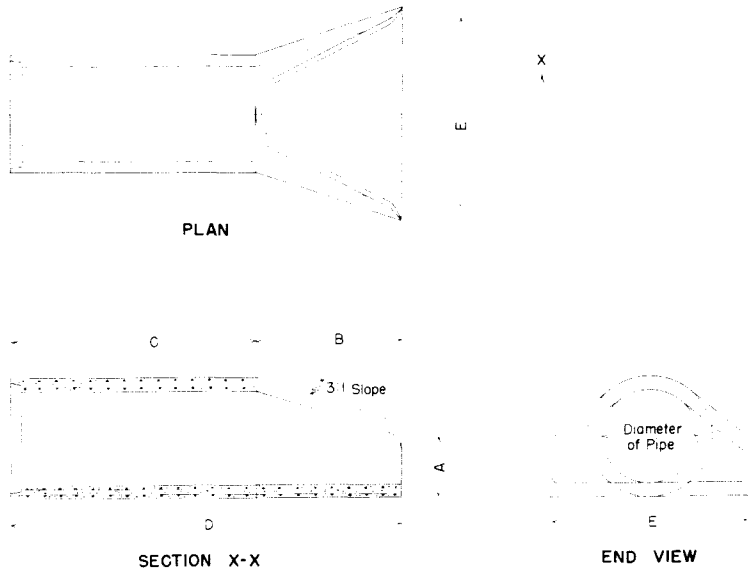
CONCRETE SEWER PIPE
REINFD 12, 15, 18, 21, 24, 27, 30, 33, 36,
42, 48, 54, 60, 66, 72,"
UNREINFD 4, 6, 8, 10, 12, 15, 18, 21, 24"

Prepared by: P.C. 7-1-52
Made by: W.W.D. Bridge Engineer
Checked by: P.C. Date: Aug. 27, 1952

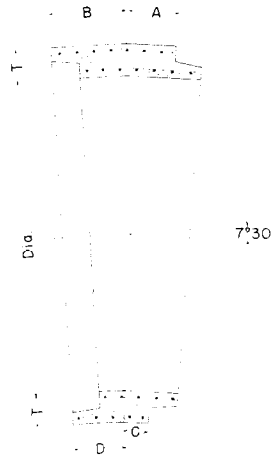
STANDARD M-118-A

FED. ROAD DISTRICT NO. 9 COLO. 1002-2381 SHEET NO. TOTAL SHEETS
 Rev. Dimensions of End Sec. 10/18/49 - E. E. O.
 Rev. Dim. Line of End Sec. 12/15/49 - C. J. W.
 Rev. Dim. of Seal B added Note - 1/17/50 - E. E. O.

FLARED END SECTION FOR CONCRETE PIPE



7°30' ANGLE SECTION FOR CONCRETE PIPE



COPPER EXPANSION JOINT FOR CONCRETE PIPE (WHEN REQUIRED ON PLANS)

Reinforcing to conform with the requirements of the pipe with which this joint is used.

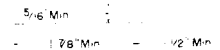


Outside of pipe D=12" to 18"
 Inside of pipe D=24" or over

4" Min. - 12 oz. Beaded Copper Sealing Strip
 Style No 28 A AS & W Mesh or suitable equivalent.
 Mortar Joint

When Welded Rectangular Mesh is used for the reinforcing steel in the pipe the inner line of Mesh may be extended into the joint space instead of using a separate strip of Triangular Mesh.

COPPER SEALING STRIP



Copper Sealing Strips shall be made from sheet copper, 4" min. width, bent as shown and weighing 12 oz. per sq. ft. Both legs of strip shall be perforated in a satisfactory manner to secure bond. Each sealing strip shall be continuous around each pipe joint with a 1/4" end lap.

DIMENSIONS FOR FLARED END SECTIONS

DIAMETER	A	B	C	D	E
12"	4"	2'-0"	4'-0 7/8"	6'-0 7/8"	2'-0"
15"	6"	2'-3"	3'-10"	6'-1"	2'-6"
18"	9"	2'-3"	3'-10"	6'-1"	3'-0"
24"	9 1/2"	3'-7 1/2"	4'-6"	6'-1 1/2"	4'-0"
30"	1'-0"	4'-9"	3'-7 3/4"	8'-13/4"	5'-0"
36"	1'-3"	5'-3"	2'-10 3/4"	8'-13/4"	6'-0"
42"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"
48"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"
54"	2'-6"	6'-0"	2'-3"	8'-3"	7'-6"
60"	2'-6"	5'-0"	3'-3"	8'-3"	8'-0"

*60" end section is based on a slope of 2:1

DIMENSIONS FOR 7°30' ANGLE SECTIONS

DIAMETER OF PIPE	LENGTH ON OUTSIDE OF PIPE				AVERAGE LAYING LENGTH ON π
	A	B	C	D	
12"	4 1/2"	4 1/2"	3 1/2"	3 1/2"	8"
15"	5 1/2"	5 1/8"	4 1/4"	3 7/8"	9 3/8"
18"	3 1/2"	6 1/2"	2"	5"	8 1/2"
24"	4"	6 1/2"	2"	4 9/16"	8 1/2"
30"	4 1/2"	7"	2"	4 1/2"	9"
36"	4 7/8"	8 7/16"	2"	5 9/16"	10 7/8"
42"	6"	9 1/2"	2 5/8"	6 1/8"	12 1/8"
48"	7"	11"	3 3/16"	7 3/16"	14 3/16"
54"	8 1/8"	12 1/8"	4"	8"	16 1/8"
60"	9 7/8"	14"	4 3/8"	9 1/4"	18 3/8"

A, B, C and D apply to Tongue and Groove type of Joint only and can be varied for other types of Joints.

GENERAL NOTES

Joints other than Tongue and Groove may be used for Flared End Sections, 7°30' Angle and for the Copper Expansion Joint but all Joints for any one pipe structure must be uniform.

Concrete, wall thickness and reinforcing steel in Flared End Sections and 7°30' Angle Sections must conform with the requirements of the pipe with which they are used.

Alternate types of expansion joints may be substituted for the expansion joint shown on this sheet after approval by the Department.

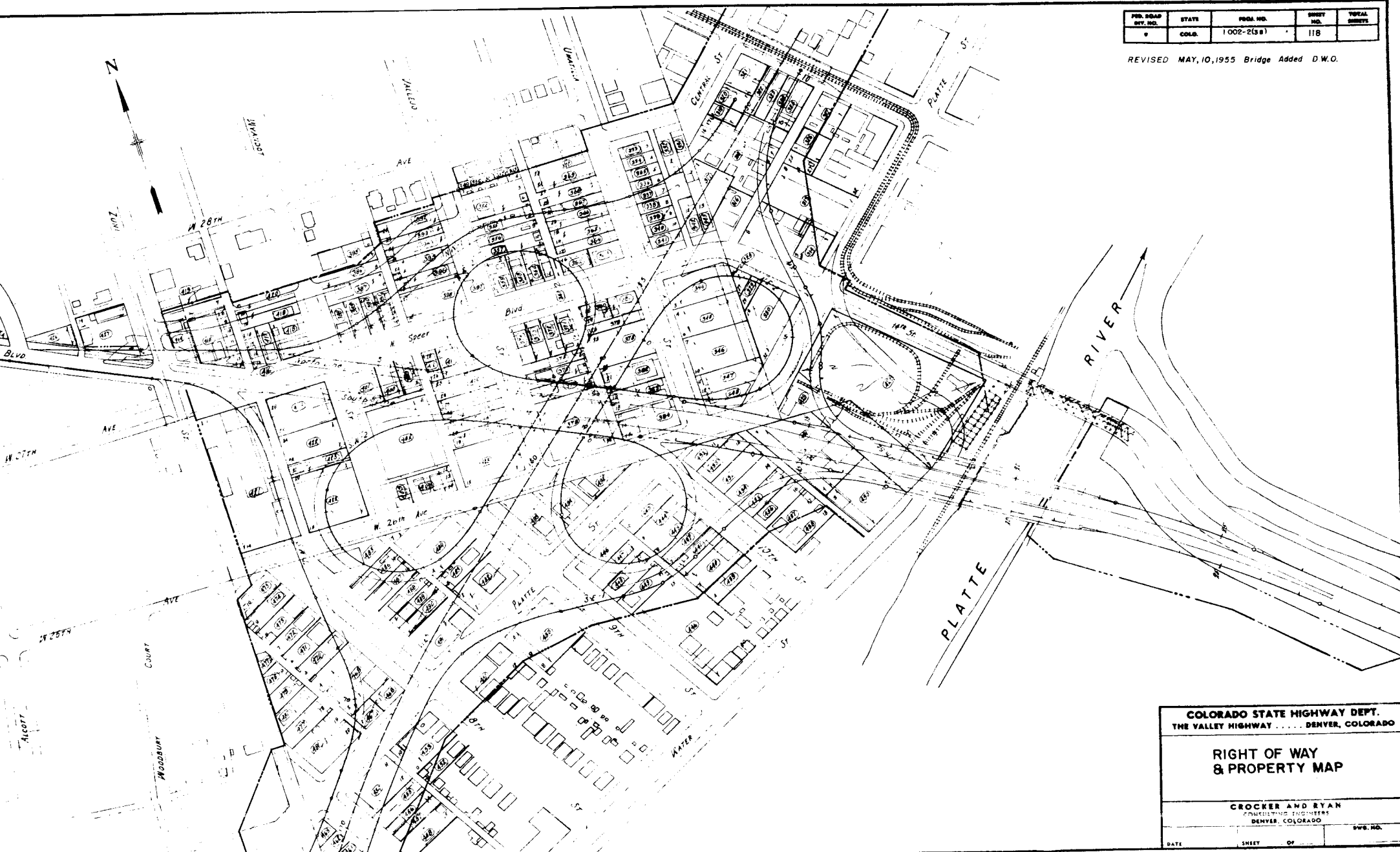
Flared end sections are to be furnished with tongue or groove, and/or bell or spigot as required, in order that joints may be laid with the bell or groove end upstream.

COLORADO STATE HIGHWAY DEPARTMENT
STANDARD
 FLARED END SECTION
 7°30' ANGLE SECTION
 AND
 COPPER EXPANSION JOINT
 FOR
 CONCRETE PIPE STRUCTURES

Designed by R S M Approved by J M K
 Made by J M K
 Checked by R S M Date January 14, 1949

FED. ROAD DIST. NO.	STATE	PGM. NO.	SHEET NO.	TOTAL SHEETS
9	COL.	1002-2(SB)	118	

REVISED MAY, 10, 1955 Bridge Added D.W.O.



COLORADO STATE HIGHWAY DEPT.
 THE VALLEY HIGHWAY DENVER, COLORADO

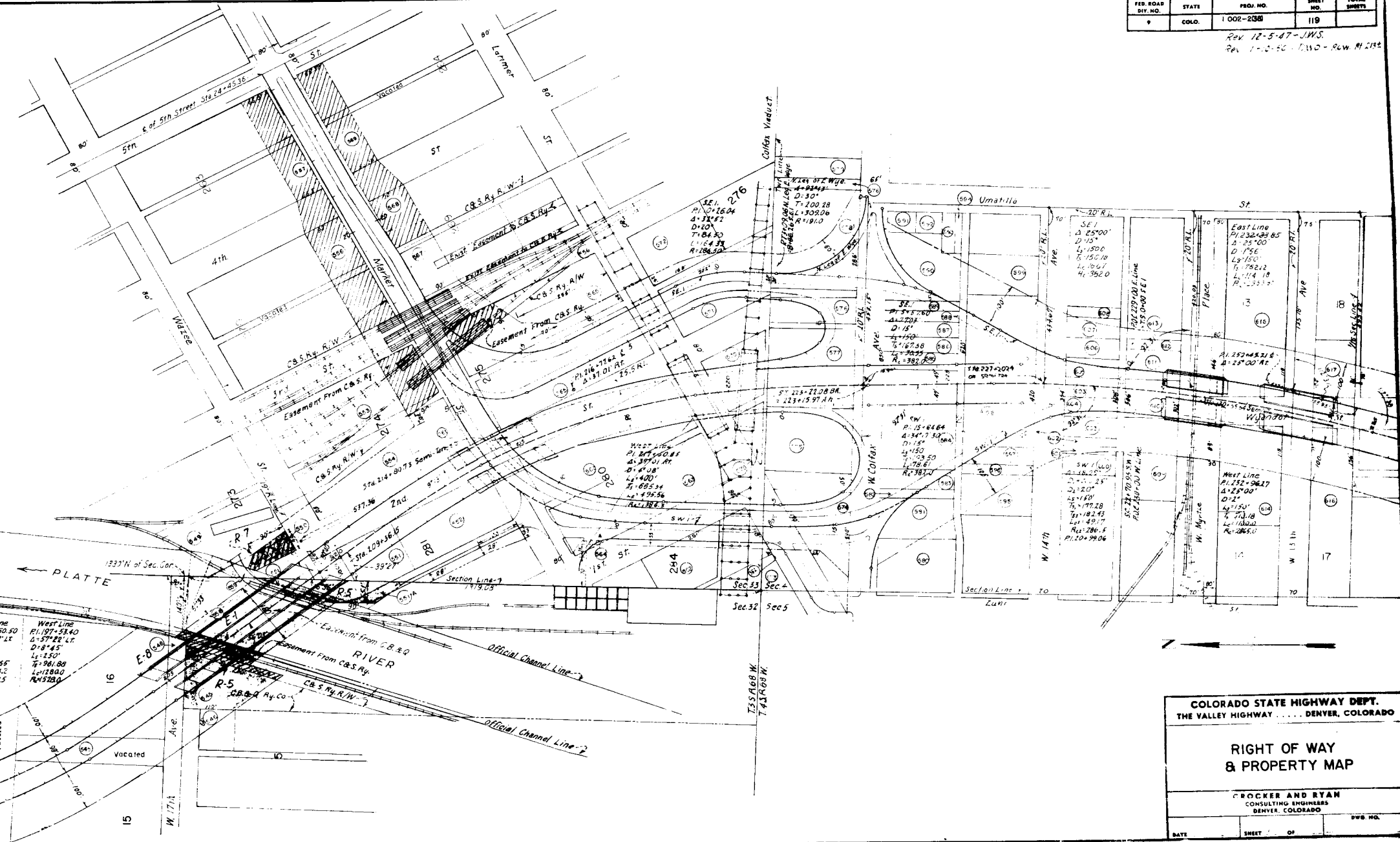
**RIGHT OF WAY
 & PROPERTY MAP**

CROCKER AND RYAN
 CONSULTING ENGINEERS
 DENVER, COLORADO

DATE _____ SHEET _____ OF _____ SWG. NO. _____

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1 002-2038	119	

Rev. 12-5-47-J.W.S.
 Rev. 1-2-50 - L.S.D. - R.W. M. 2182



COLORADO STATE HIGHWAY DEPT.
 THE VALLEY HIGHWAY DENVER, COLORADO

RIGHT OF WAY & PROPERTY MAP

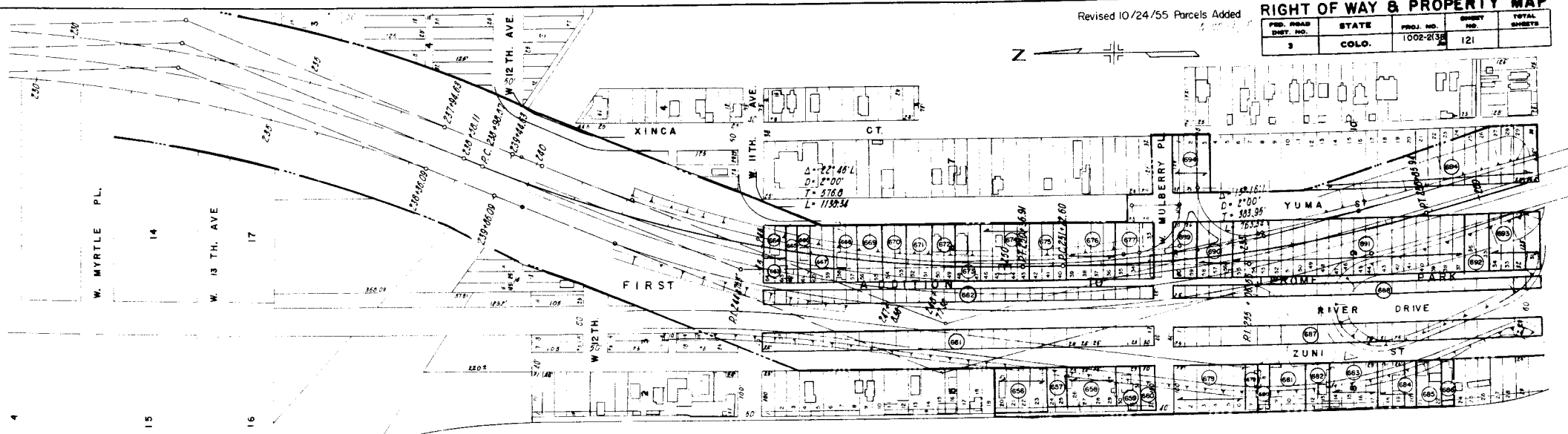
CROCKER AND RYAN
 CONSULTING ENGINEERS
 DENVER, COLORADO

DATE: _____ SHEET: 119 OF _____ DWS. NO. _____

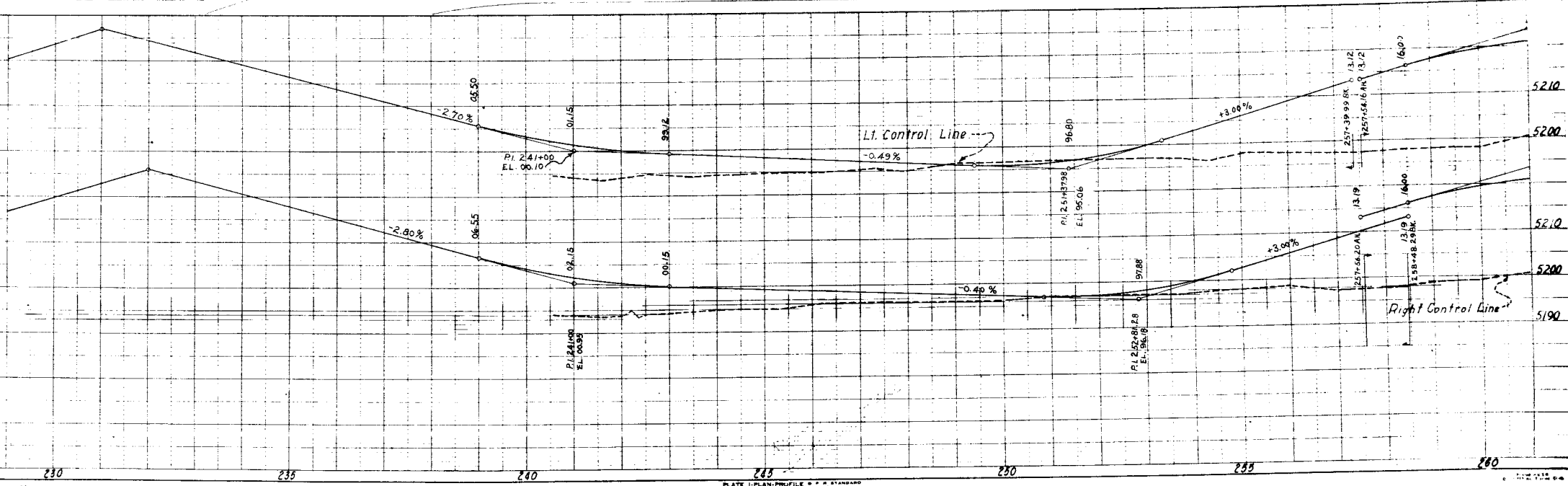
Revised 10/24/55 Parcels Added

RIGHT OF WAY & PROPERTY MAP

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
2	COLO.	1002-2135	121	



Official Channel of South Platte River

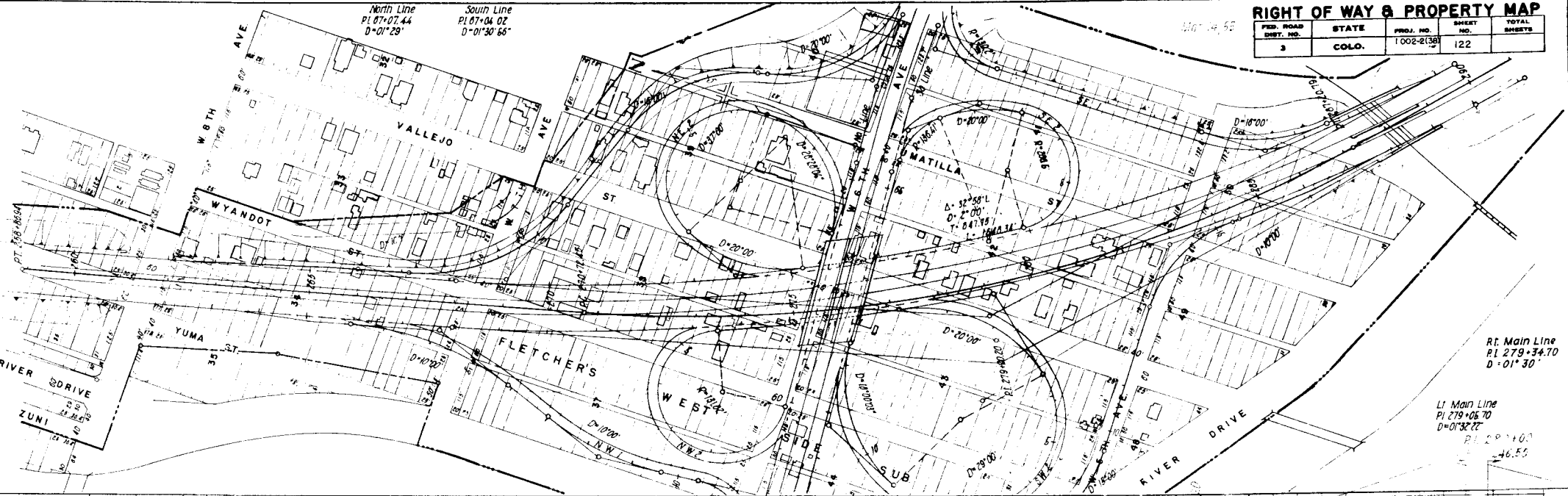


RIGHT OF WAY & PROPERTY MAP

PROP. ROAD SHEET NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	1002-2(38)	122	

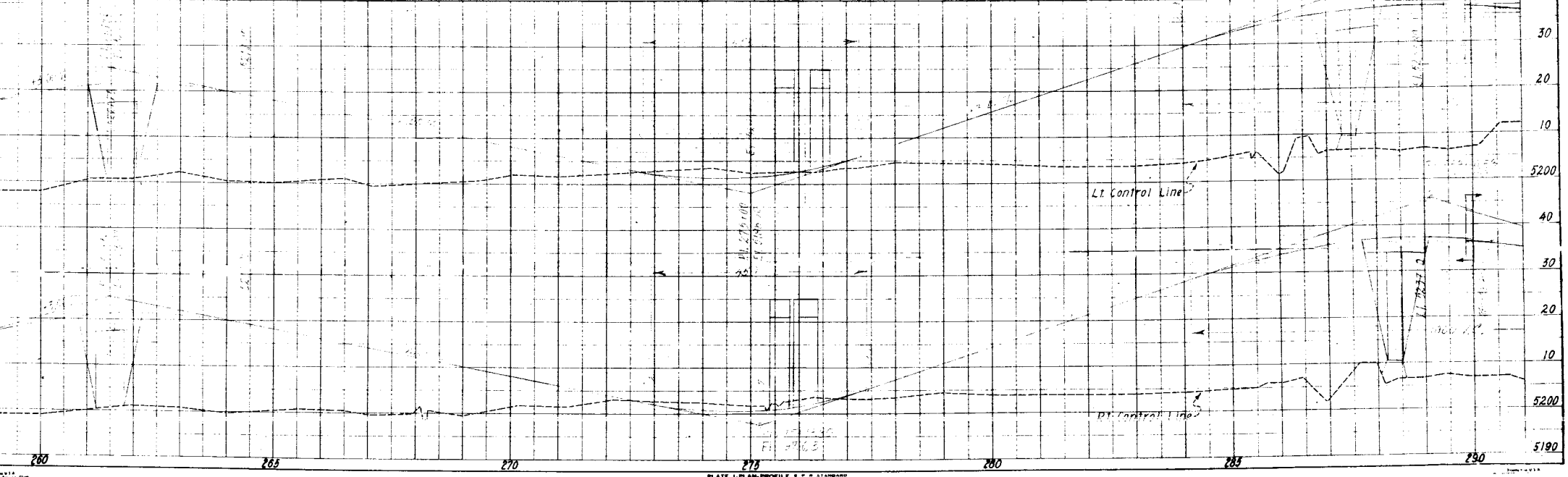
North Line
PI 07+07.44
D=01°29'

South Line
PI 07+04.02
D=01°30'66"



Rt. Main Line
PI 279+34.70
D=01°30'

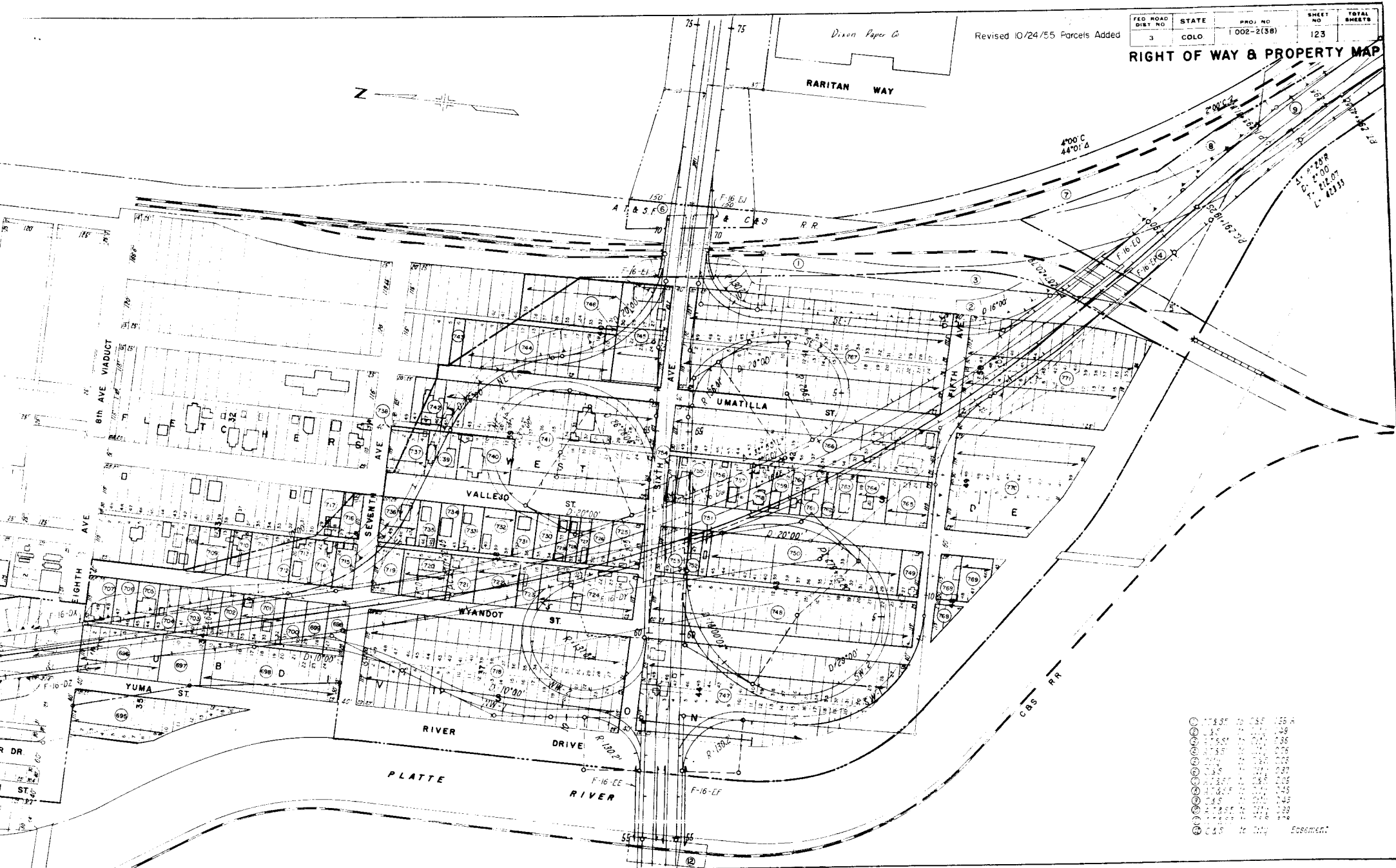
Lt. Main Line
PI 279+06.70
D=01°32'22"



FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	1002-2(38)	123	

Revised 10/24/55 Parcels Added

RIGHT OF WAY & PROPERTY MAP

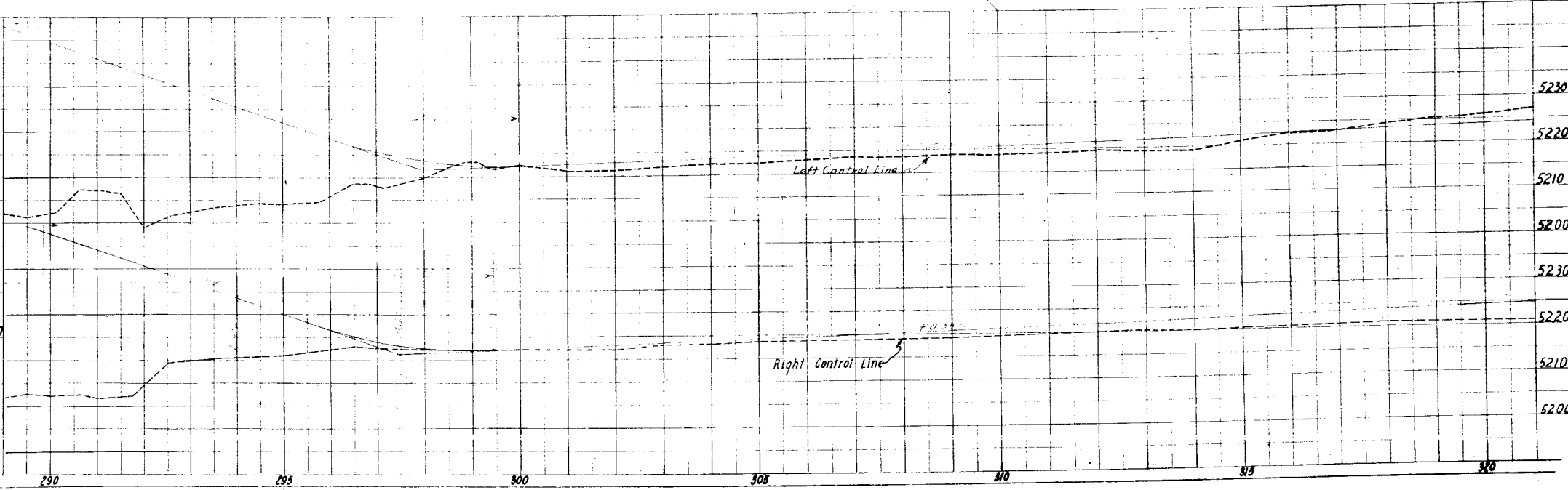
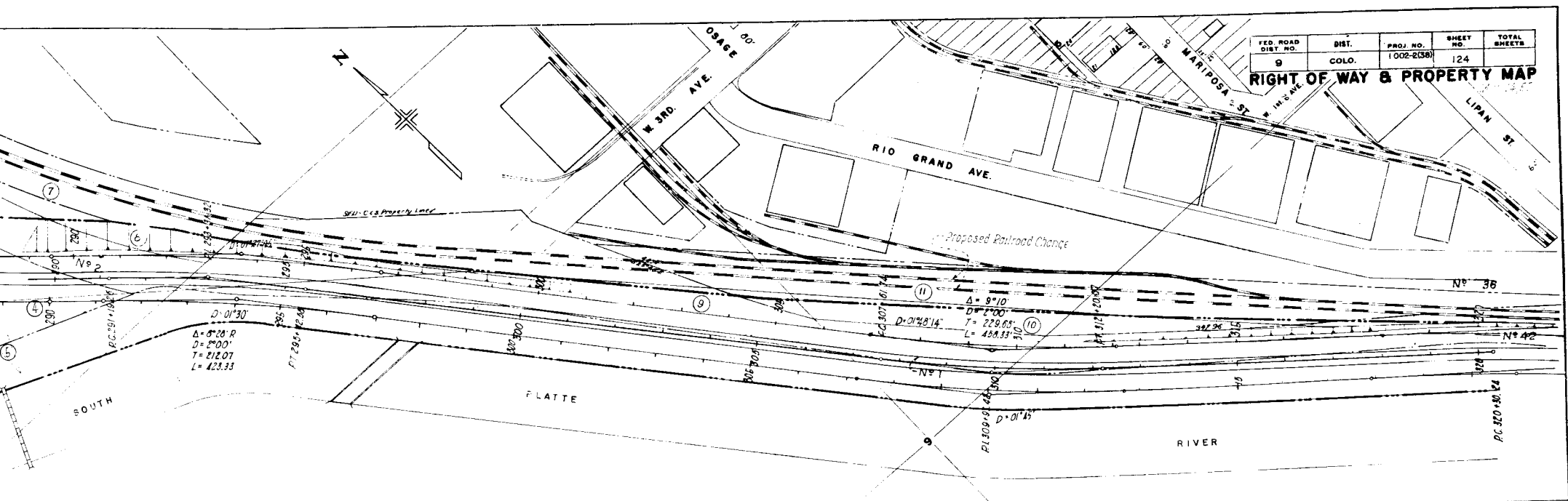


1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	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

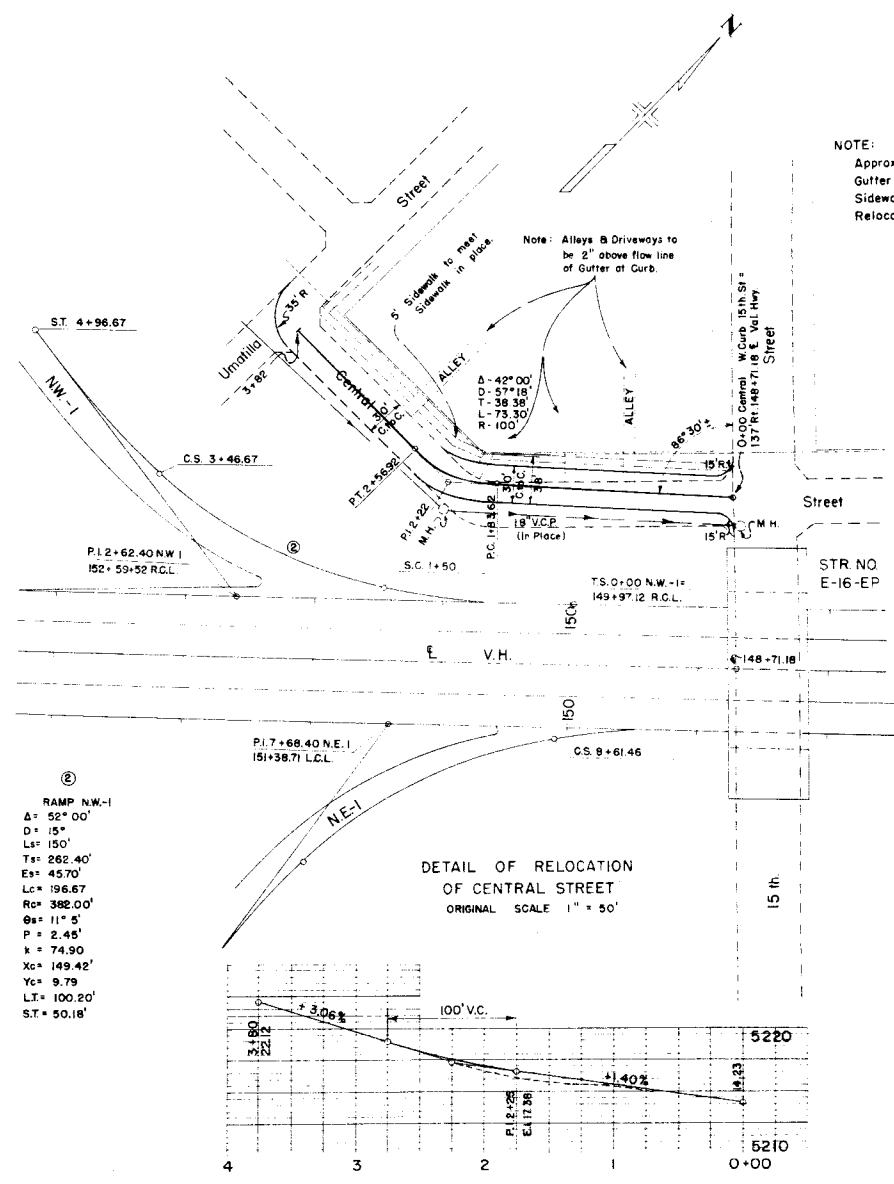
Engineer

FED. ROAD DIST. NO.	DIST.	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1002-238	124	

RIGHT OF WAY & PROPERTY MAP



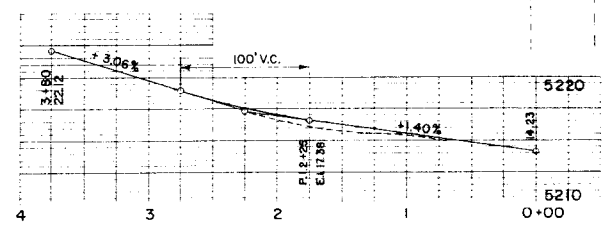
FED. ROAD DIV. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1 002-2136	125	



NOTE:
 Approximately 520 Ft. of Type I Curb & Gutter and 1300 Sq. Ft. of Concrete Sidewalk required for Central Street Relocation.

②
 RAMP N.W.-1
 Δ = 52° 00'
 D = 15'
 Ls = 150'
 Ts = 262.40'
 Es = 45.70'
 Lc = 196.67'
 Rc = 382.00'
 θs = 11° 5'
 P = 2.45'
 k = 74.90'
 Xc = 149.42'
 Yc = 9.79'
 L.T. = 100.20'
 S.T. = 50.18'

DETAIL OF RELOCATION
 OF CENTRAL STREET
 ORIGINAL SCALE 1" = 50'



FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLOR.	1 002-238	127	

Revised 20 Sept 54 - NW-1

Ramp NW-2		Ramp NW-1	
①	②	③	④
Δ 791°27'30"	Δ 32°00'	Δ 35°27'	Δ 44°58'30"
D 30'	D 15'	D 25'	D 15'00"
L 200'	L 50'	L 150'	L 150'
Ts 566.99	Ts 262.47	Ts 167.54	Ts 34.05
Ys 130.50	Ys 45.70	Ys 172.0	Ys 36.72
Xs 38'	Xs 196.67	Xs 172.5	Xs 149.83
Ps 10.88	Ps 382.36	Ps 256.30	Ps 302.0'
Xs 191.38'	Ps 2.45	Ps 3.26'	Ps 117.15
Ys 42.85'	Xs 74.90'	Xs 74.85'	Ps 2.46'
Xs 186.54'	Xs 149.42'	Xs 149.58'	Xs 143.42
ST 68.55'	Ys 9.79'	Ys 13.03'	Xs 9.79'
	LT 100.20	LT 102.36'	LT 143.42
	ST 50.18'	ST 50.35'	ST 52.8

North Line Speed

17	18
Δ 752.9	Δ 3100
D 182.07	D 32.03
L 75.65	L 7.03

Ramp NE-2

⑤	⑥	⑦	⑧
Δ 15°32'30"	Δ 55°35'45"	Δ 31°06'38"	Δ 79°10'48"
D 28'	D 15'	D 31'22"	D 36'70"
Ls 200	Ls 150	Ls 100'	Ls 150.89'
Ts 254.06	Ts 277.58	Ts 101'	Ts 150.89'
Ys 52.80	Ys 52.60	Ys 2.36	Ys 132.11'
Ps 38'	Ls 220.64	Ls 0	R 150.53'
Xs 10.53'	Ps 382.00'	Ps 153.15'	
Xs 98.55'	Ps 117.15'	Ps 2.25'	
Xs 191.38'	Ps 2.45'	Ps 49.88'	
Xs 42.85'	Xs 74.90'	Xs 94.27'	
ST 136.54	Xs 149.42'	Xs 0.97'	
ST 69.59	LT 149.20'	LT 66.93'	
	ST 50.18'	ST 53.57'	

South Line Speed

⑨	⑩	⑪	⑫
Δ 6°36'	Δ 1°30'	Δ 1°30'	Δ 1°30'
D 15'	D 15'	D 15'	D 15'
L 275.5'	L 275.5'	L 275.5'	L 275.5'
Ts 198.16	Ts 198.16	Ts 198.16	Ts 198.16
Ys 17.45	Ys 17.45	Ys 17.45	Ys 17.45
Xs 18.00	Xs 18.00	Xs 18.00	Xs 18.00

NOTE: (P.B.) Project Break.

W. H. Hulse, Chief Engineer, Colorado Department of Highways

Ramp SE-2

⑬	⑭	⑮	⑯	⑰
Δ 39°27'30"	Δ 30°00'	Δ 200'	Δ 50°35'	Δ 44°00'
D 389'	D 30'	D 200'	D 200'	D 200'
Ls 107.14	Ls 120'	Ls 15'	Ls 200'	Ls 79'
Ts 113.30	Ts 101.64	Ts 22.14	Ts 244.05	Ts 79.60
Ys 146.00	Ys 8.99	Ys 197.19	Ys 27.55'	Ys 37.55'
Ps 11.30	Ps 0	Ps 77.65	Ps 57.38'	Ps 23.07'
Xs 29.54'	Ps 5'	Ps 126.69	Ps 136.19	Ps 26.30'
Xs 98.32'	Ps 0.32'	Ps 217'	ST 73.82	ST 67.45
Xs 130.50'	Xs 99.12'	Xs 15.29'		
Xs 53.76'	Xs 49.32'	Xs 15.94'		
Xs 113.28'	Xs 66.9'	Xs 15.29'		
ST 75.80	ST 33.55'	ST 33.55'		

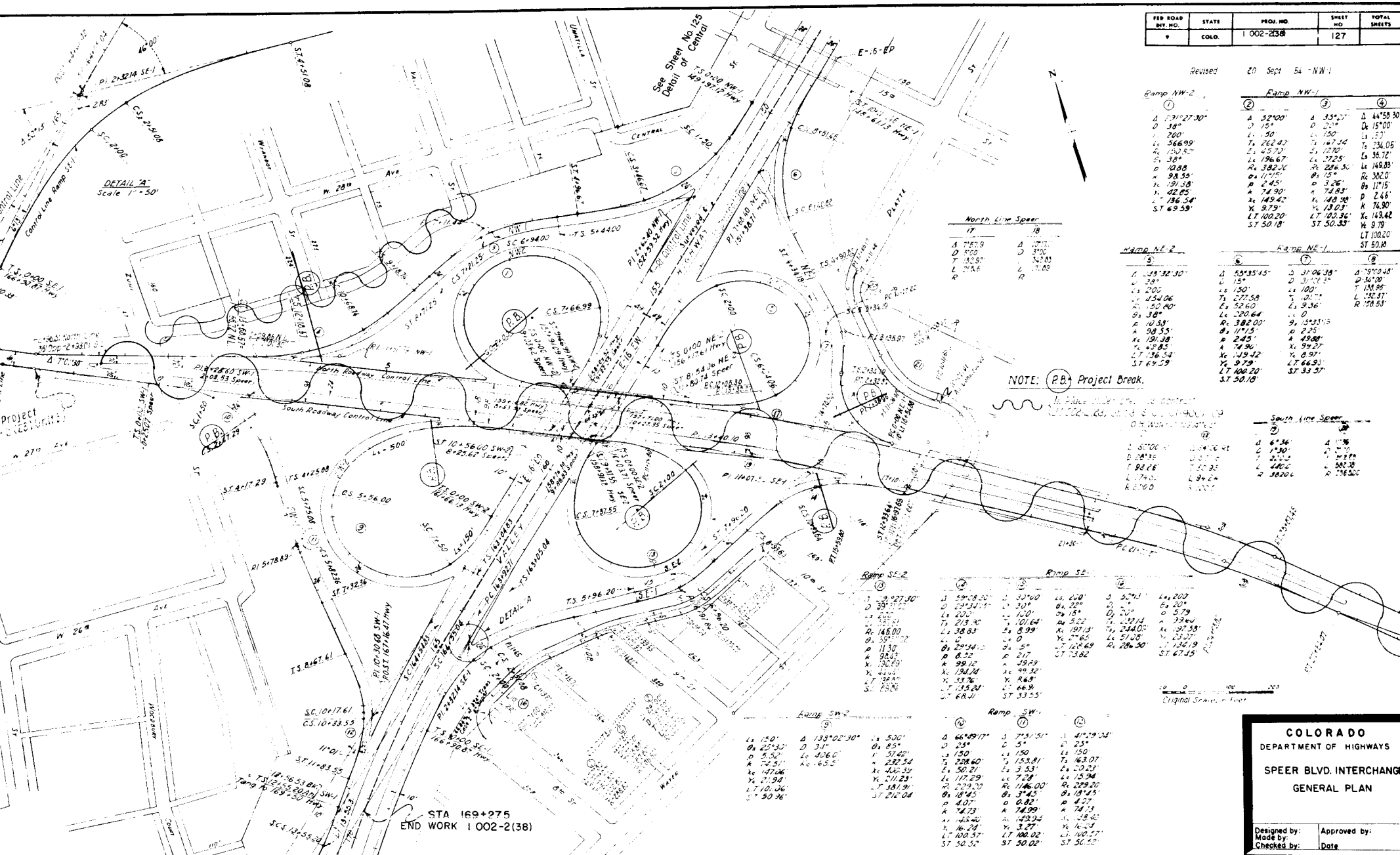
Ramp SW-2

⑱	⑲	⑳
Δ 66°49'17"	Δ 75°15'51"	Δ 41°29'04"
D 150'	D 51'	D 25'
Ls 150'	Ls 150'	Ls 150'
Ts 228.40'	Ts 153.81'	Ts 63.07'
Xs 50.21'	Xs 3.53'	Xs 20.23'
Ls 117.29'	Ls 72.8'	Ls 15.94'
Xs 229.20'	Xs 146.00'	Xs 229.20'
Ps 18.45'	Ps 37.45'	Ps 18.45'
Ps 4.07'	Ps 0.82'	Ps 4.27'
Xs 74.73'	Xs 74.99'	Xs 74.73'
Xs 46.29'	Xs 149.54'	Xs 149.54'
LT 100.57'	LT 100.57'	LT 100.57'
ST 50.50'	ST 50.02'	ST 50.50'

COLORADO
DEPARTMENT OF HIGHWAYS

SPEED BLVD. INTERCHANGE
GENERAL PLAN

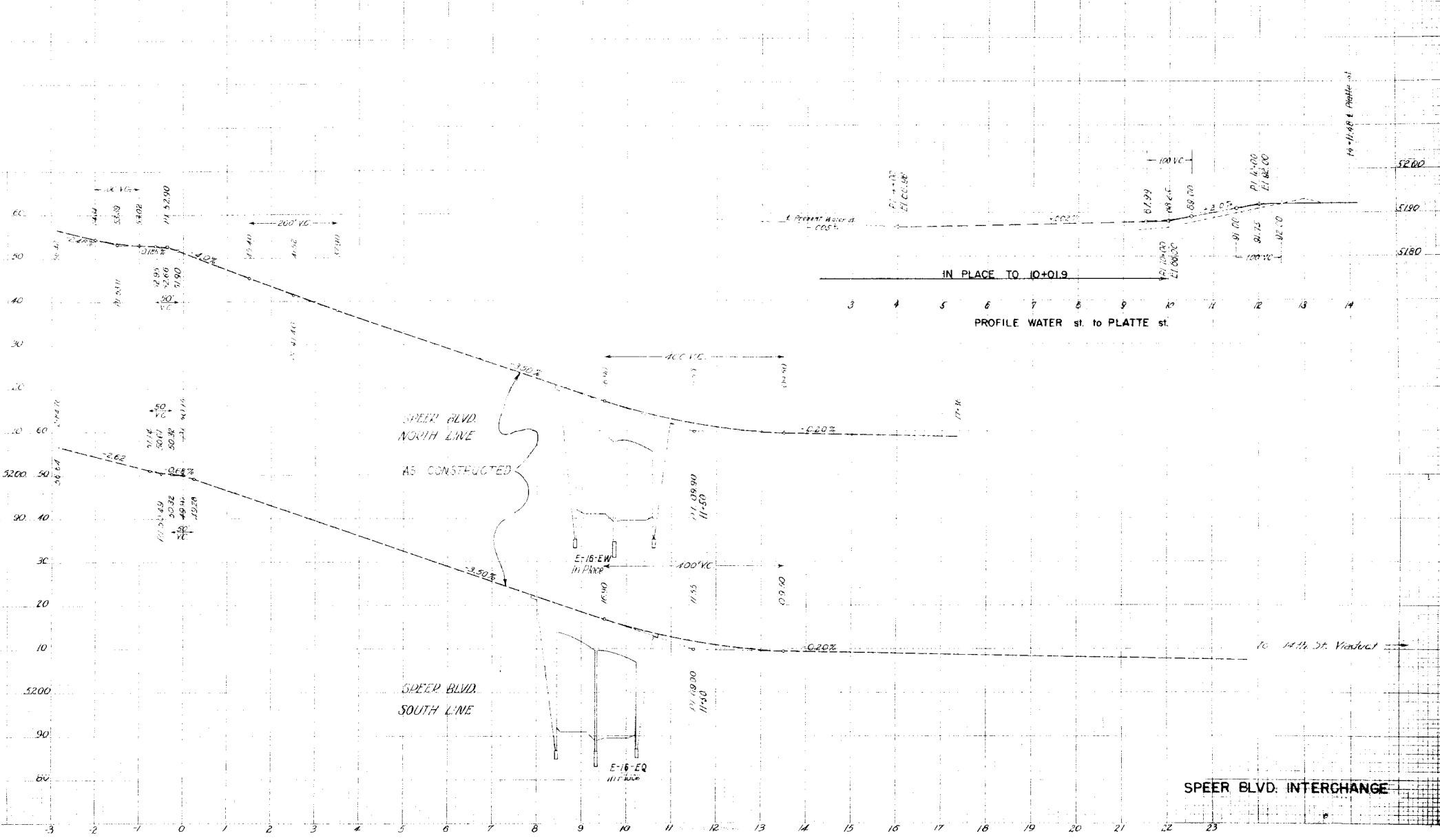
Designed by:	Approved by:
Checked by:	Date:



STA 169+275
END WORK 1 002-2(38)

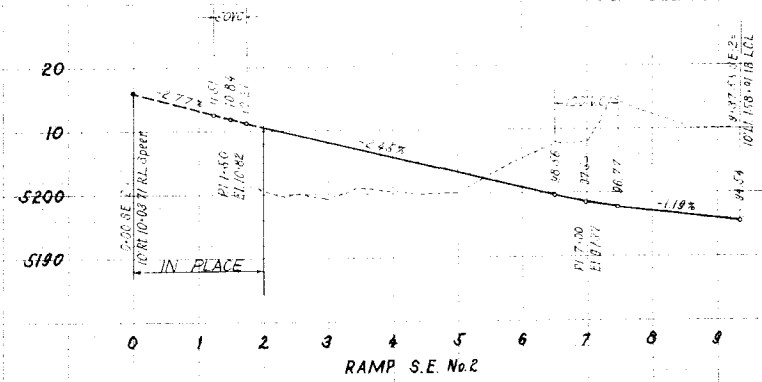
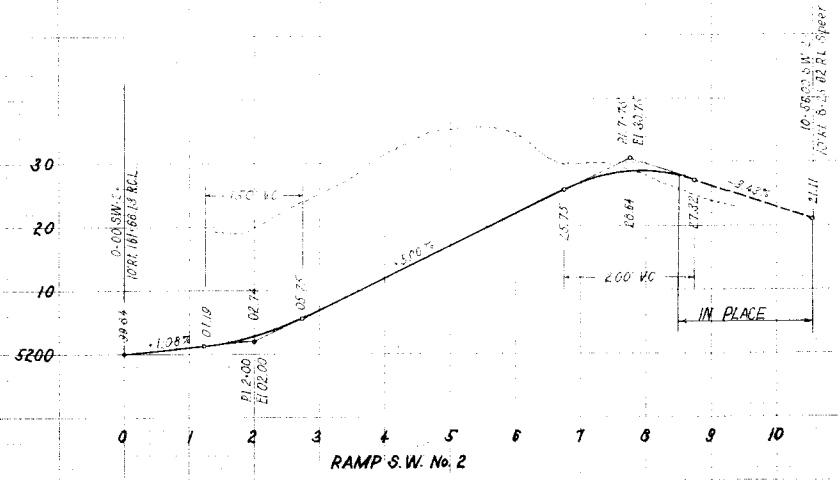
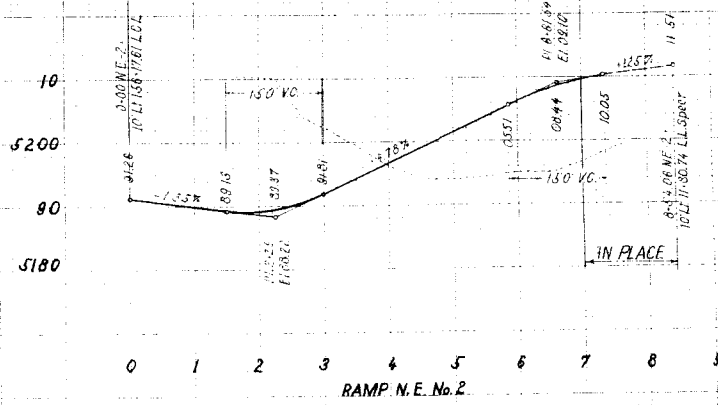
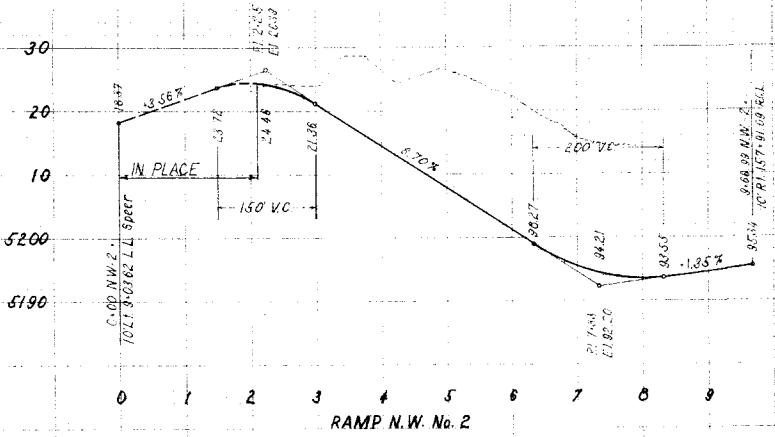
FEED DN NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLL.	1 002 2(38)	128	

Revised 27 Sept. 48

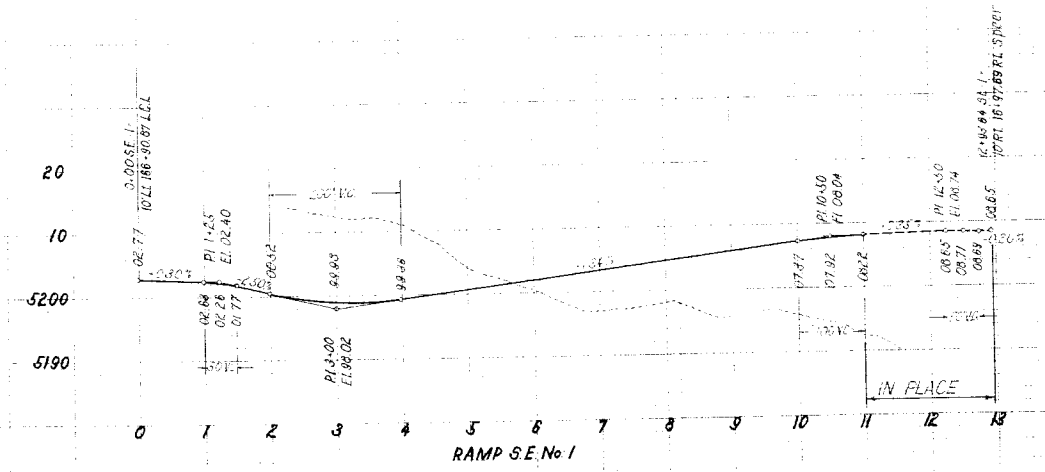
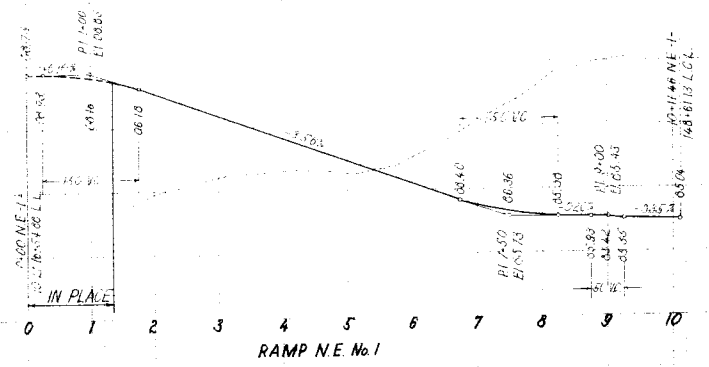
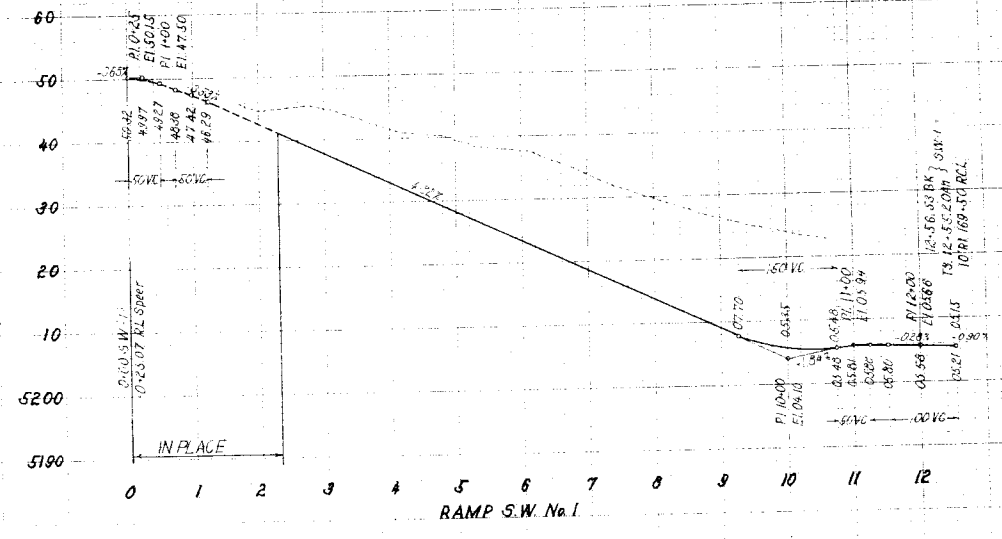
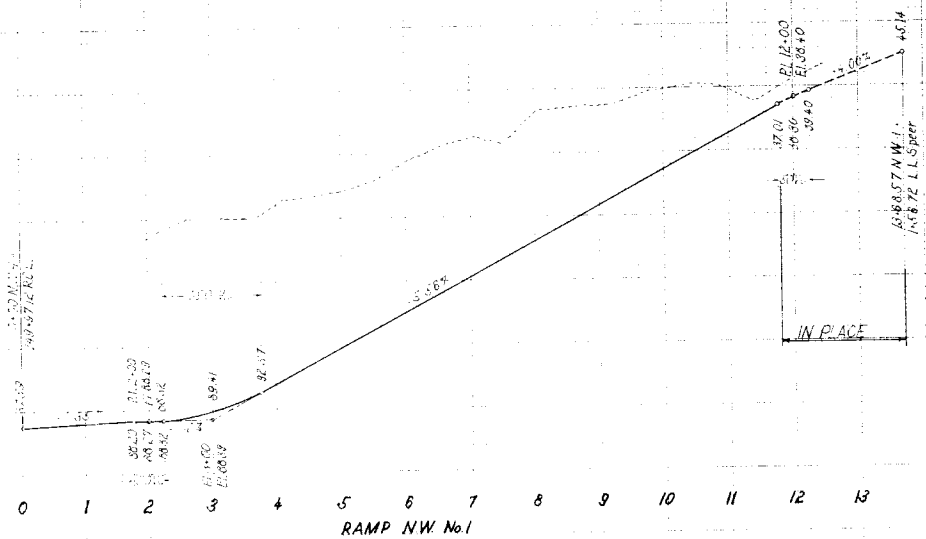


FED. ROAD DIV. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	002-236	129	

NOTE THE SECTIONS OF RAMPS SHOWN "IN PLACE" HAVE BEEN CONSTRUCTED UNDER A PREVIOUS CONTRACT U1 002-2(23) UNIT 3.



SPEER BLVD. INTERCHANGE



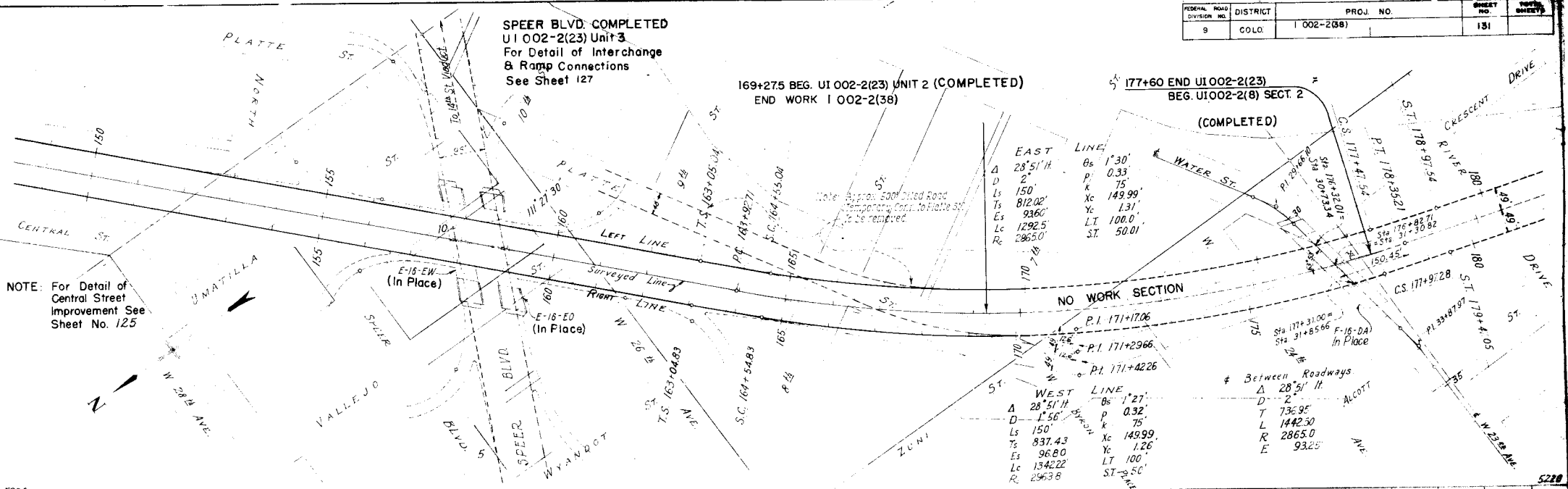
SPEER BLVD. INTERCHANGE

FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1 002-2(38)	131	

SPEER BLVD. COMPLETED
 UI 002-2(23) Unit 3
 For Detail of Interchange
 & Ramp Connections
 See Sheet 127

169+275 BEG. UI 002-2(23) UNIT 2 (COMPLETED)
 END WORK 1 002-2(38)

177+60 END UI 002-2(23)
 BEG. UI 002-2(8) SECT. 2
 (COMPLETED)



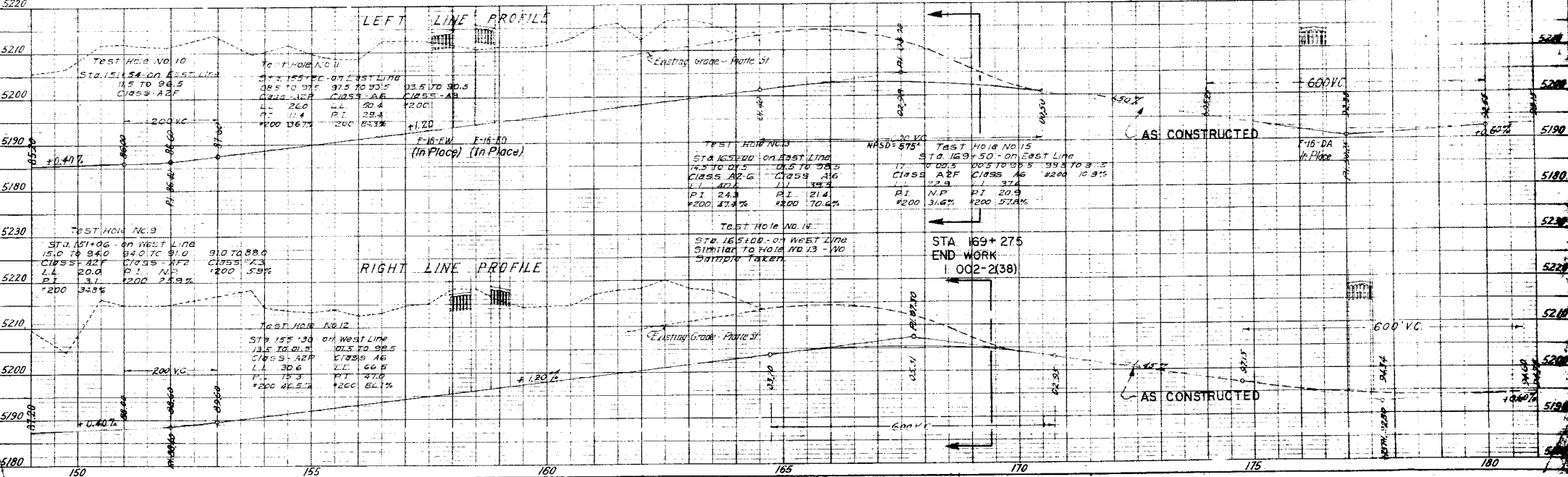
NOTE: For Detail of Central Street Improvement See Sheet No. 125

EAST LINE

Δ	28° 51' 11"
D	2'
Ls	150'
Ts	812.02'
Lc	1292.5'
Rc	2865.0'

WEST LINE

Δ	28° 51' 11"
D	1' 56"
Ls	150'
Ts	837.43'
Lc	96.80'
Rc	1342.22'
R	2963.8'



Rev. 7-28-52, Ramps N-19 & S-19, J.C.R.

Added 8' Bike path 9-6-78 WEM

FEDERAL ROAD DISTRICT	PROJ. NO.
STATE	132
COUNTY	
DISTRICT	
COLORADO	1002-2(8)
CROSS SECTION	
CONTRACT NO.	
SECTION	

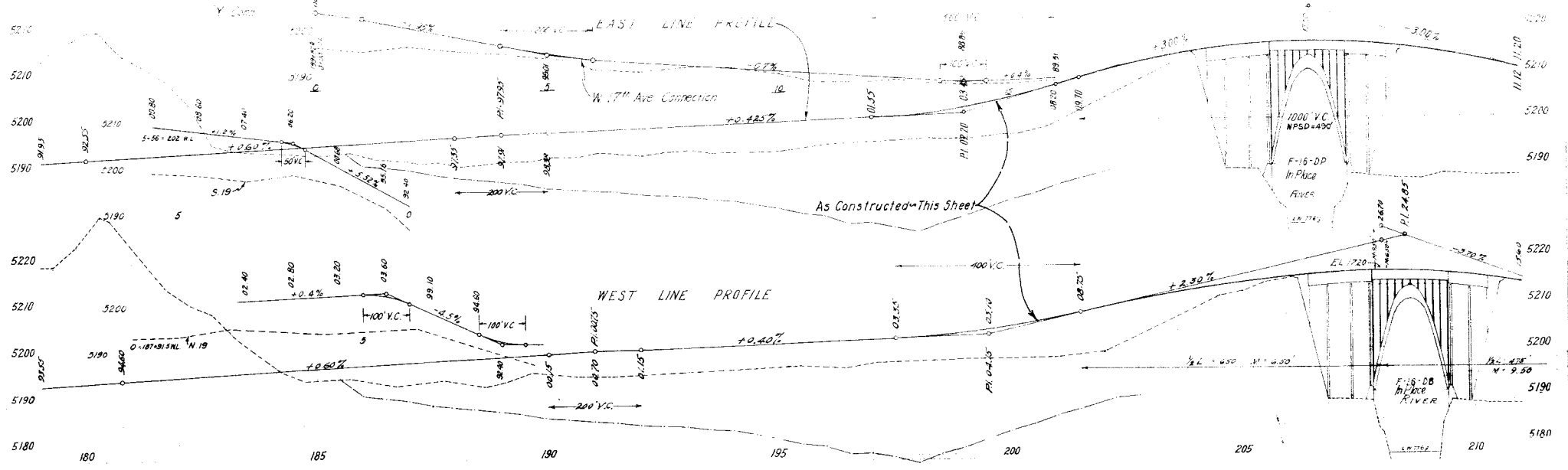
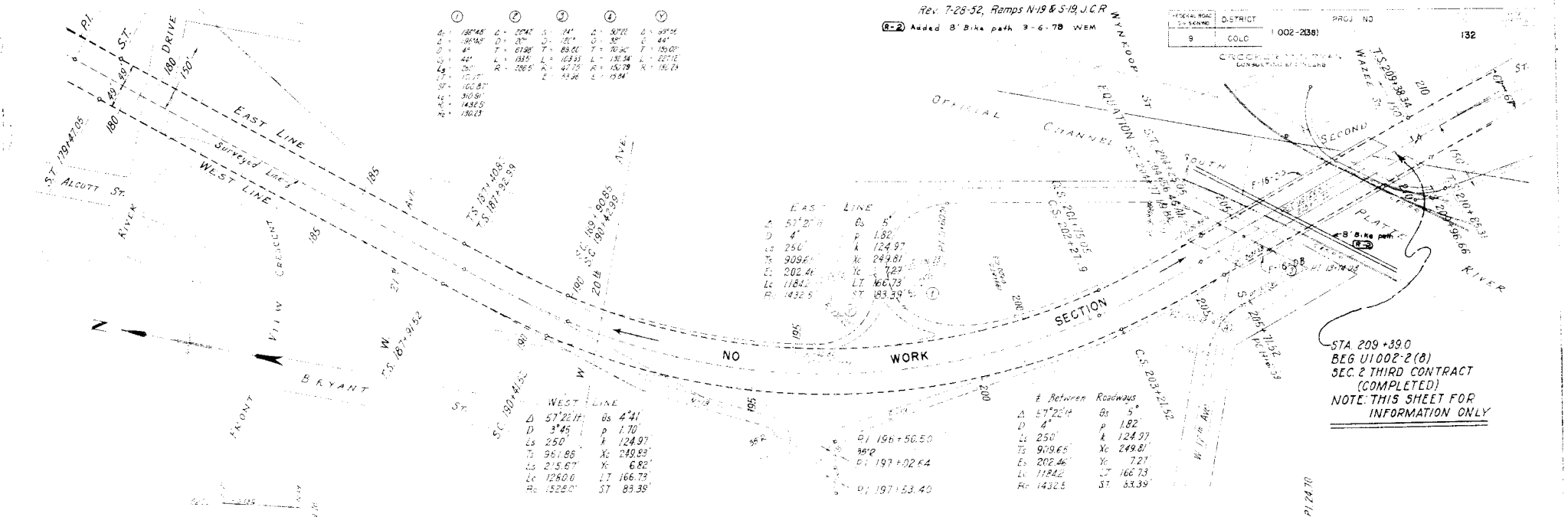
1	2	3	4	5
Q 127.48	Q 127.48	Q 127.48	Q 127.48	Q 127.48
D 4	D 4	D 4	D 4	D 4
Ls 250	Ls 250	Ls 250	Ls 250	Ls 250
Ts 909.21	Ts 909.21	Ts 909.21	Ts 909.21	Ts 909.21
Es 202.46	Es 202.46	Es 202.46	Es 202.46	Es 202.46
Lc 1184.2	Lc 1184.2	Lc 1184.2	Lc 1184.2	Lc 1184.2
Rc 1432.5	Rc 1432.5	Rc 1432.5	Rc 1432.5	Rc 1432.5
ST 83.39	ST 83.39	ST 83.39	ST 83.39	ST 83.39

EAST LINE	Es	4.41
D	D	4.41
Ls	Ls	124.97
Ts	Ts	249.81
Es	Es	6.82
Lc	Lc	166.73
Rc	Rc	83.39

WEST LINE	Es	4.41
D	D	1.70
Ls	Ls	124.97
Ts	Ts	249.81
Es	Es	6.82
Lc	Lc	166.73
Rc	Rc	83.39

Between Roadways	Es	5.0
D	D	4.0
Ls	Ls	124.97
Ts	Ts	249.81
Es	Es	7.21
Lc	Lc	166.73
Rc	Rc	83.39

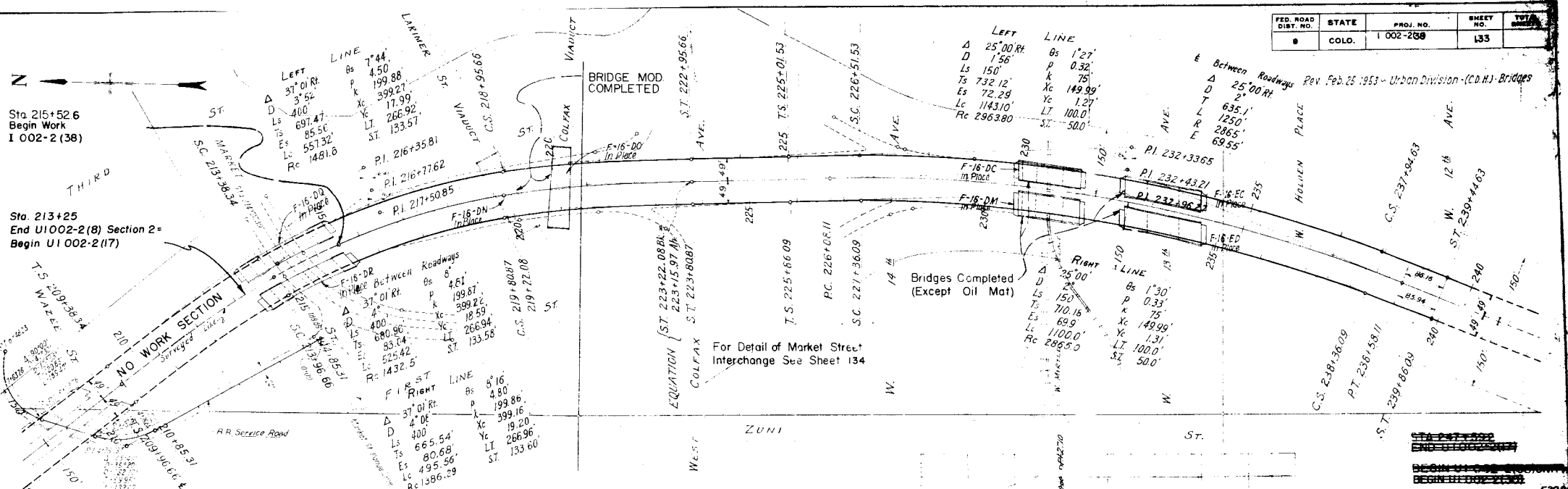
STA 209+39.0
 BEG U1002-2(8)
 SEC. 2 THIRD CONTRACT
 (COMPLETED)
 NOTE: THIS SHEET FOR
 INFORMATION ONLY



FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
8	COLO.	1 002-258	133	

Sta 215+52.6
Begin Work
I 002-2 (38)

Sta. 213+25
End U1002-2(8) Section 2=
Begin U1 002-2(17)



LEFT LINE

Δ 25'00" Rt
D 1'56'
Ls 150'
Ts 732'12"
Es 72'29'
Lc 1143'10'
Rc 2963.80

Δs 1'27"
P 0.32'
k 75'
Xc 149.99'
Yc 1.27'
LT 100.0'
ST 50.0'

RIGHT LINE

Δ 25'00" Rt
D 2'
Ls 150'
Ts 732'12"
Es 72'29'
Lc 1143'10'
Rc 2963.80

Δs 1'30"
P 0.33'
k 75'
Xc 149.99'
Yc 1.31'
LT 100.0'
ST 50.0'

ROADWAYS Between

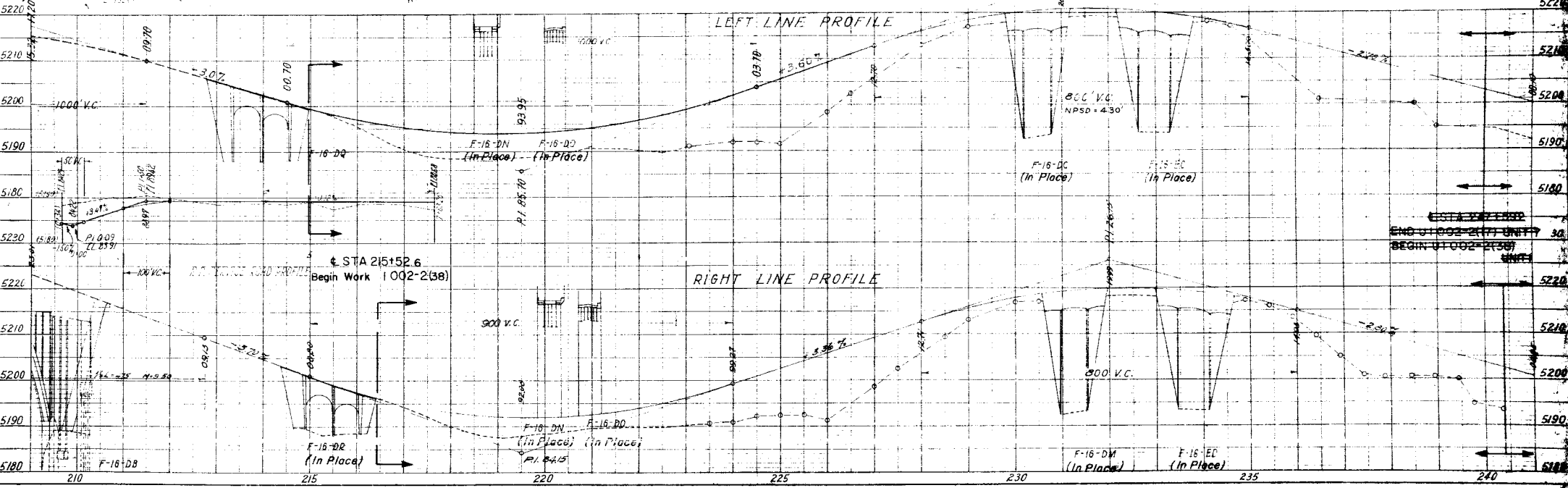
Δs 8'
P 0.461'
k 199.87'
Xc 399.22'
Yc 18.59'
Lc 266.94'
Rc 1432.5'

First ST

Δ 4'00"
Ls 400'
Ts 665.54'
Es 80.68'
Lc 495.56'
Rc 1486.29'

LEFT LINE PROFILE

RIGHT LINE PROFILE



FED. ROAD DIV. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1002-2(8)	134	

Revised April 11, 1949 - Urban Division (C.S.H.D.) - Cofferdam Alignment.
 Feb. 18, 24, 1950 -
 Revised Feb. 21, 1952 - (C.D.H.) - Bridges.

ROAD SE-1		ROAD SE-2		ROAD SW-2		ROAD SW-1	
PC 150.00	PT 150.00	PC 100.00	PT 100.00	PC 100.00	PT 100.00	PC 100.00	PT 100.00
LA 150.00	LA 150.00	LA 100.00	LA 100.00	LA 100.00	LA 100.00	LA 100.00	LA 100.00
EA 150.00	EA 150.00	EA 100.00	EA 100.00	EA 100.00	EA 100.00	EA 100.00	EA 100.00
TA 150.00	TA 150.00	TA 100.00	TA 100.00	TA 100.00	TA 100.00	TA 100.00	TA 100.00
CA 150.00	CA 150.00	CA 100.00	CA 100.00	CA 100.00	CA 100.00	CA 100.00	CA 100.00
SA 150.00	SA 150.00	SA 100.00	SA 100.00	SA 100.00	SA 100.00	SA 100.00	SA 100.00
EA 150.00	EA 150.00	EA 100.00	EA 100.00	EA 100.00	EA 100.00	EA 100.00	EA 100.00
TA 150.00	TA 150.00	TA 100.00	TA 100.00	TA 100.00	TA 100.00	TA 100.00	TA 100.00
CA 150.00	CA 150.00	CA 100.00	CA 100.00	CA 100.00	CA 100.00	CA 100.00	CA 100.00
SA 150.00	SA 150.00	SA 100.00	SA 100.00	SA 100.00	SA 100.00	SA 100.00	SA 100.00

Temp 5
 Δ 90°00'
 D 120°00'
 T 286°50'
 R 266°50'
 L 45°00'

Temp 4
 Δ 90°00'
 D 120°00'
 T 286°50'
 R 266°50'
 L 45°00'

Sta. 213+25
 End U1002-2(B) Section 2 Third Contract
 Begin U1002-2(U) Unit 4 (Completed)

NO WORK SECTION

Sta. 209+390
 Begin U1002-2(B) Sec. 2
 Third Contract (Completed)

Sta. 215+52.6 End U1002-2(U)
 Unit 4 (Completed)
 BEGIN WORK 1002-2(8)

Survey Line
 PI 216+77.62
 LA 400'
 TA 400'
 EA 400'
 TA 400'
 CA 400'
 SA 400'

Curve Data
 W Outer Highway at Zuni
 Δ 60°
 D 114°6'
 T 295'
 R 1100'

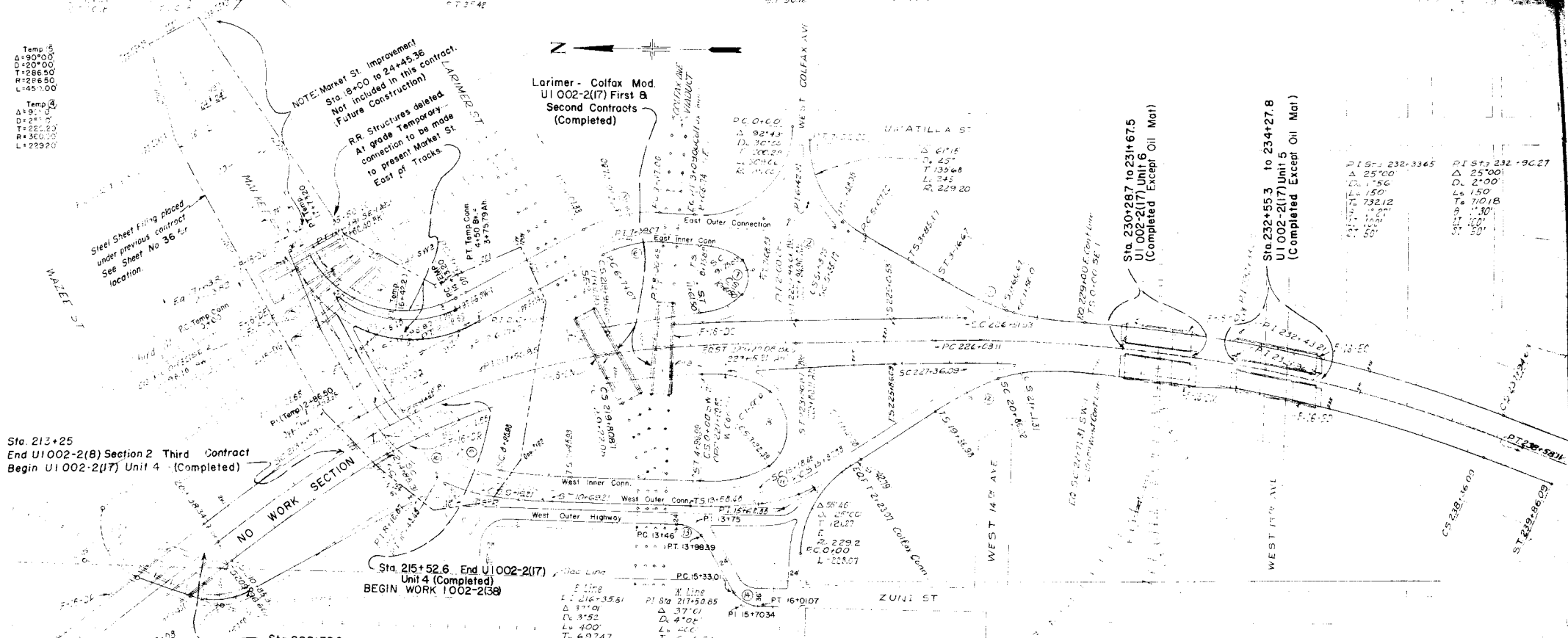
COLORADO STATE HIGHWAY DEPT.
 THE VALLEY HIGHWAY DENVER, COLORADO

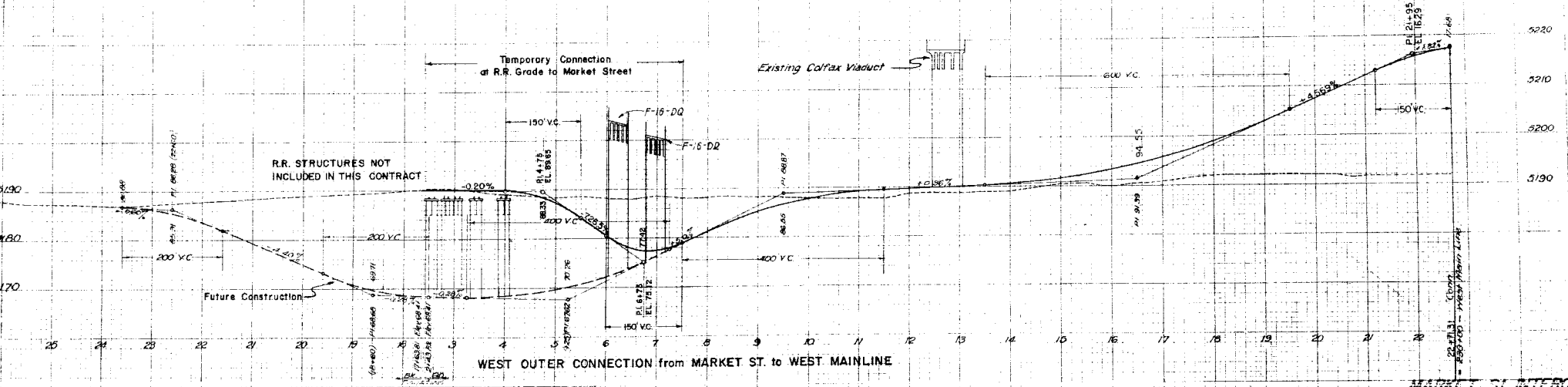
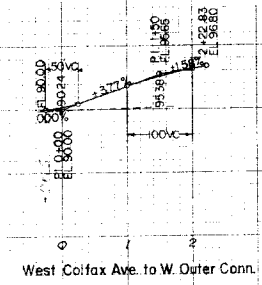
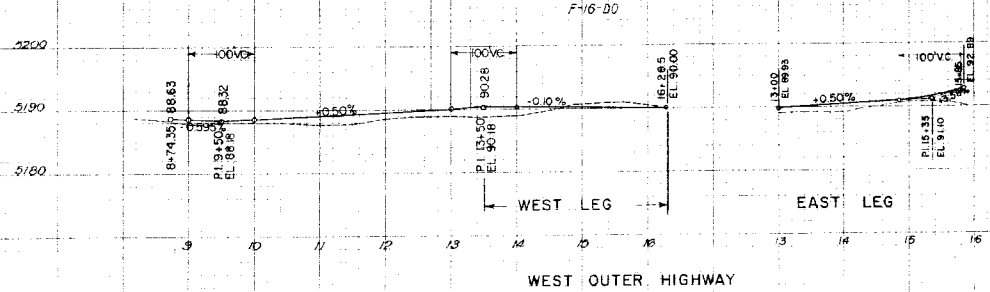
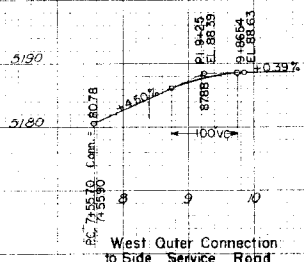
MARKET ST. INTERCHANGE

GENERAL PLAN

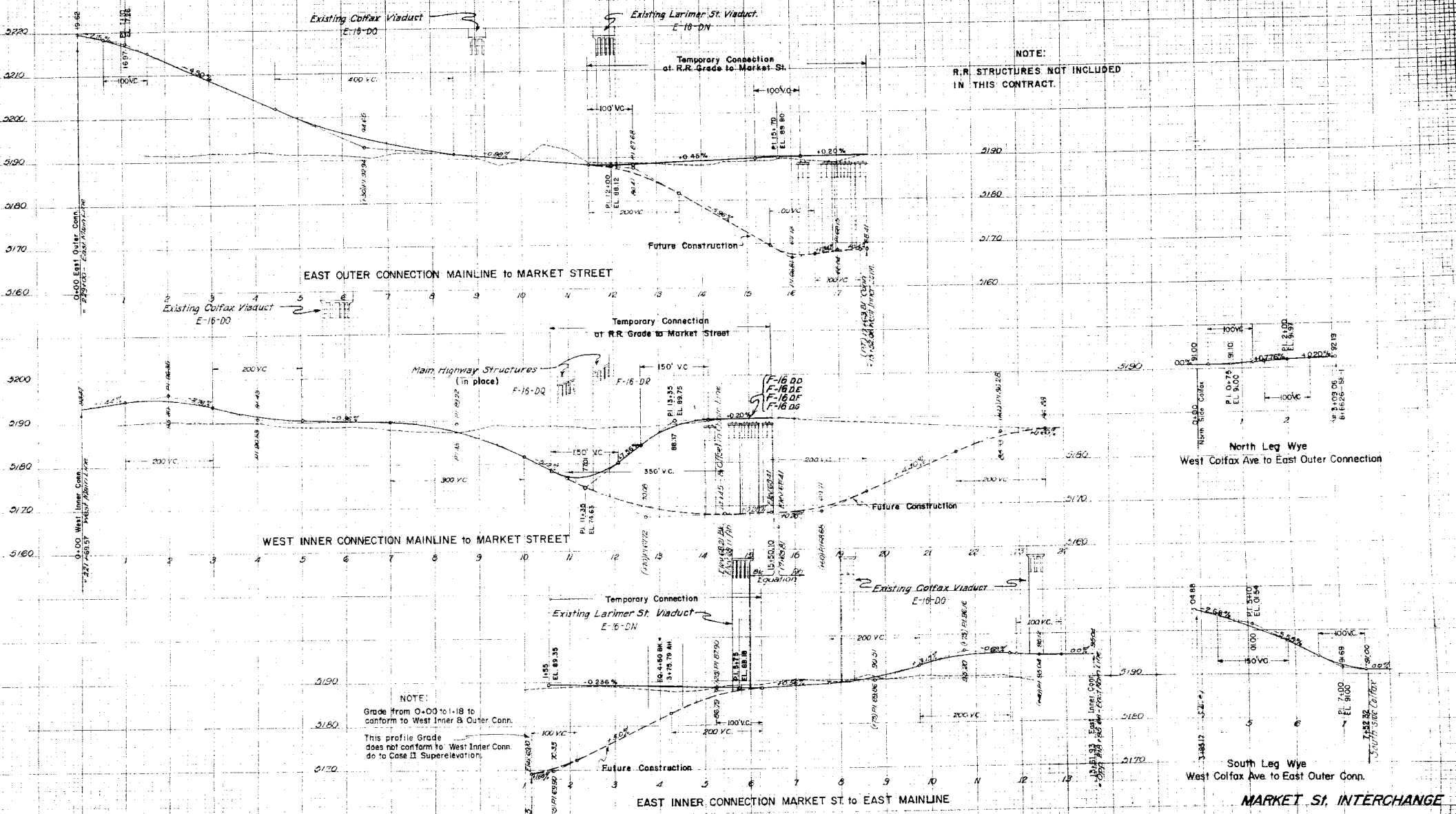
CROCKER AND RYAN
 CONSULTING ENGINEERS
 1001 E. COLLEGE AVENUE
 DENVER, COLORADO

DATE _____ SHEET _____ OF _____ B.W.G. NO. _____





MARKET ST INTERCHANGE



NOTE:
R.R. STRUCTURES NOT INCLUDED
IN THIS CONTRACT.

North Leg Wye
West Colfax Ave to East Outer Connection

South Leg Wye
West Colfax Ave to East Outer Conn.

MARKET ST. INTERCHANGE

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	1002-238	137	

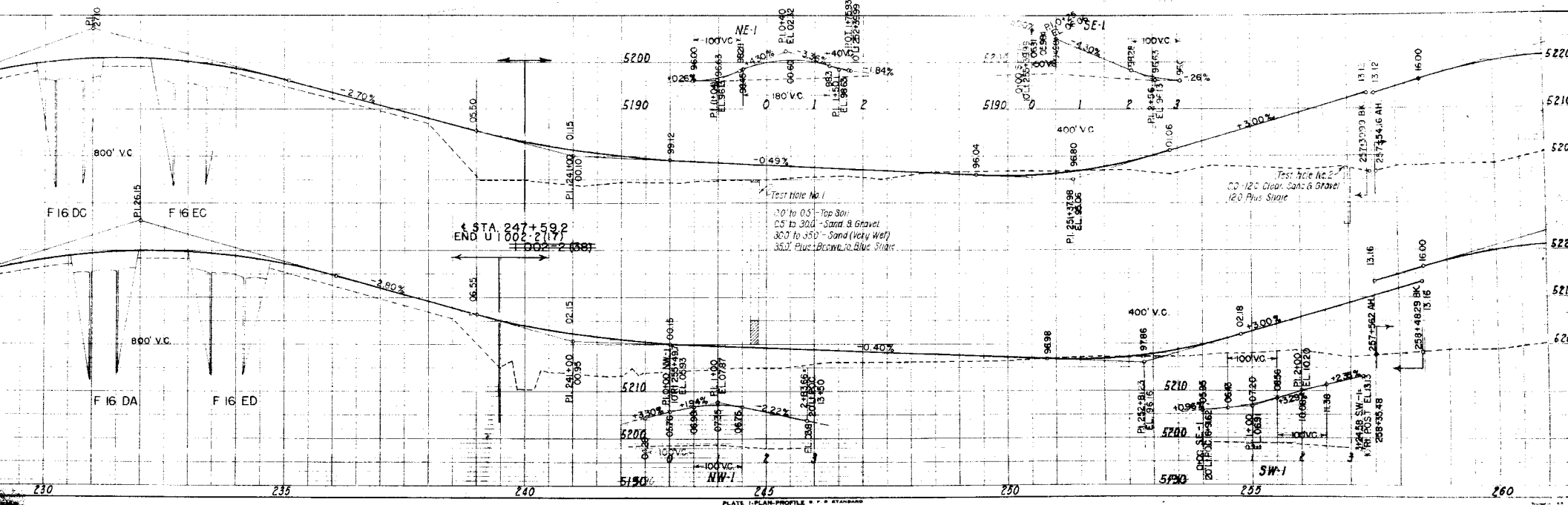
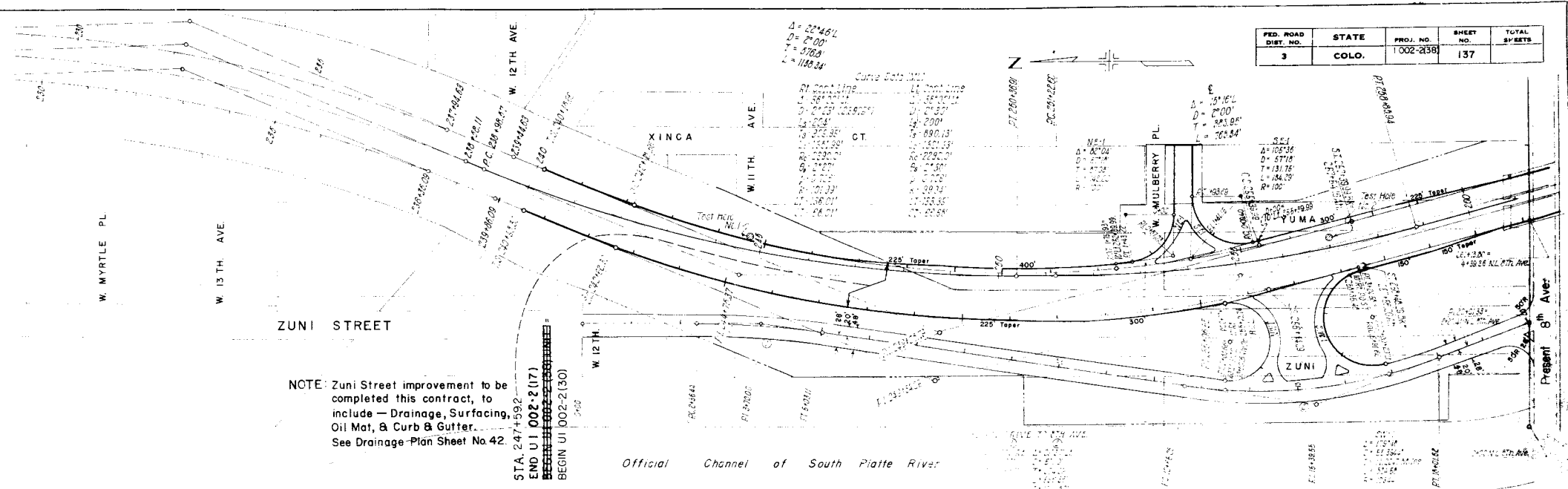
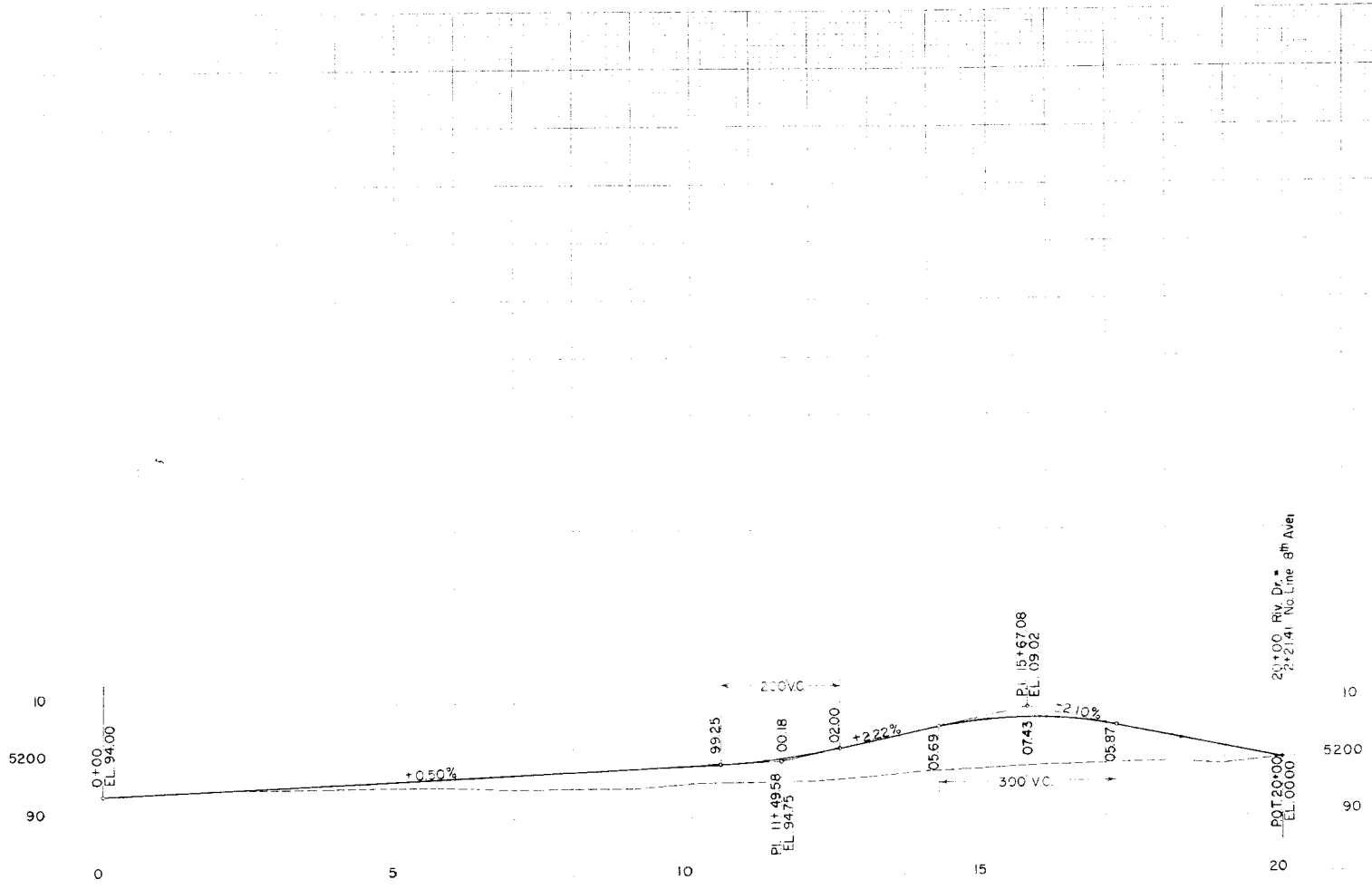
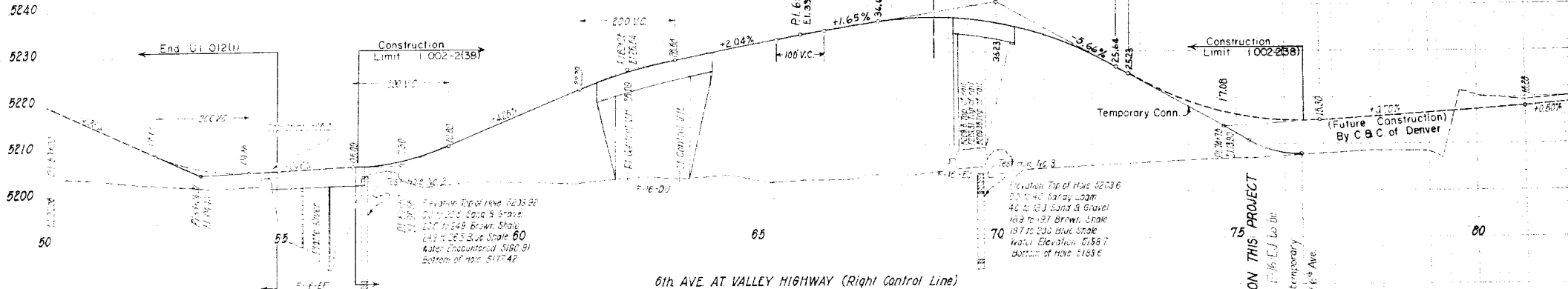


PLATE 1: PLAN/PROFILE

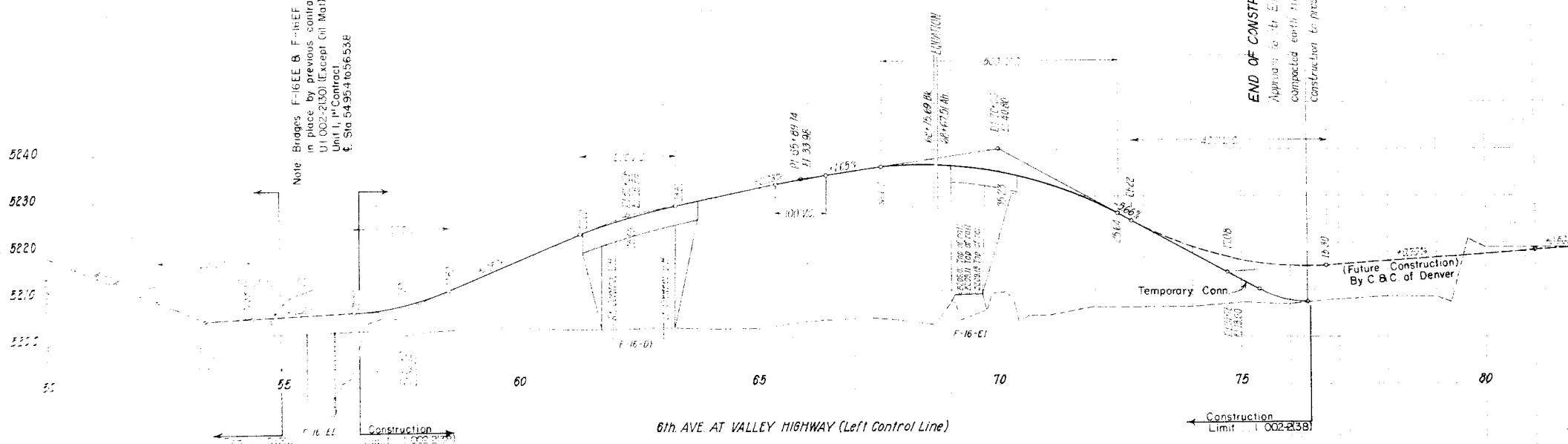


PROFILE - ZUNI ST.

6th AVE. GRADES



6th AVE. AT VALLEY HIGHWAY (Right Control Line)



6th AVE. AT VALLEY HIGHWAY (Left Control Line)

Note: Braggis F-16EE & F-16EF
 in place by previous contract
 U1 002-2(38) (Except Oil Matt)
 Unit 1, 1st Contract
 Sta 54-95+10.5-53.6

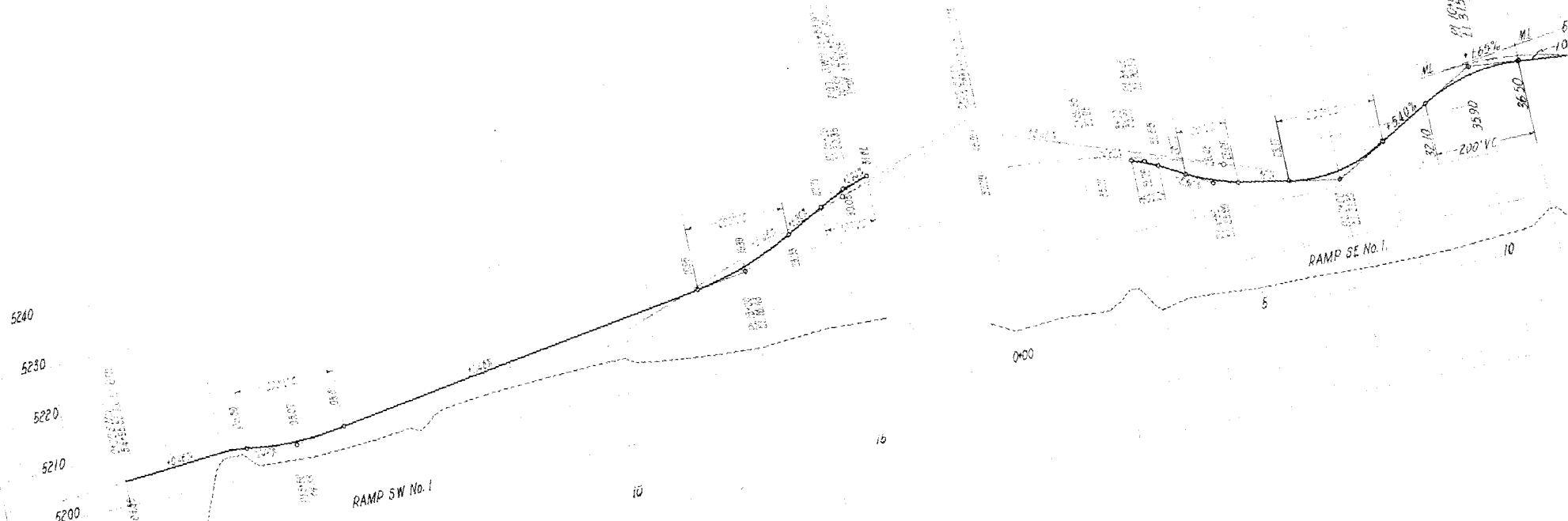
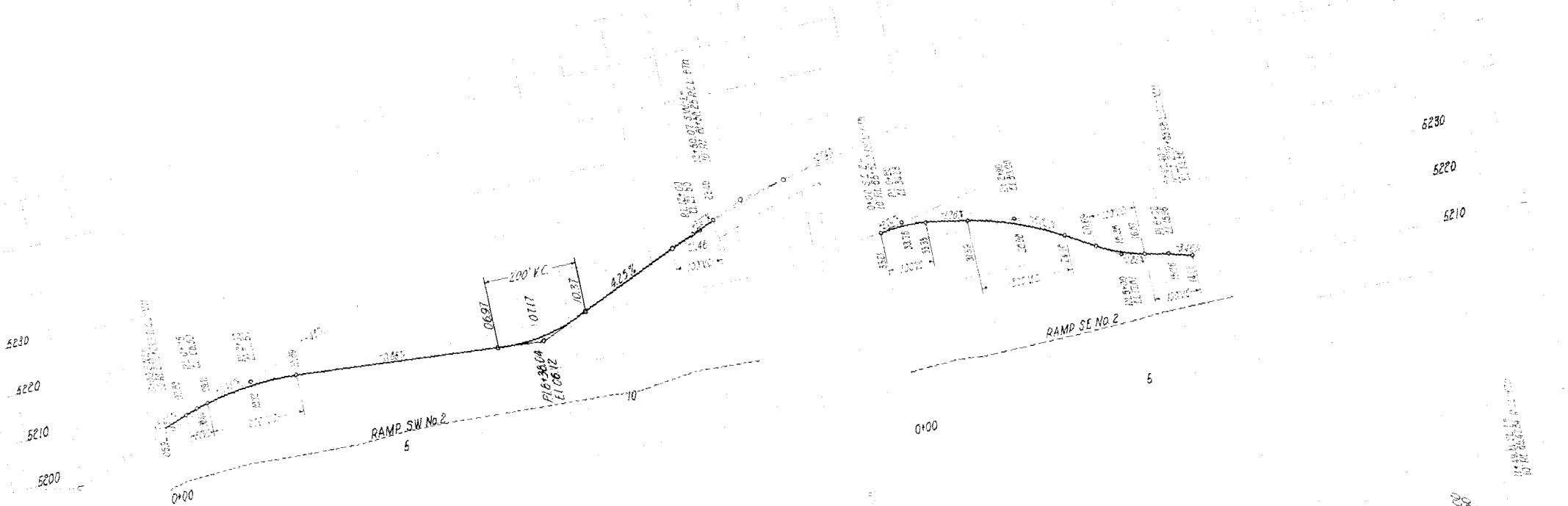
END OF CONSTRUCTION THIS PROJECT
 Approach to Sta. 54+00 E1 47.16 E1 to be
 compacted earth fill for temporary
 construction to present. W 6th Ave.

(Future Construction)
 By C & C of Denver

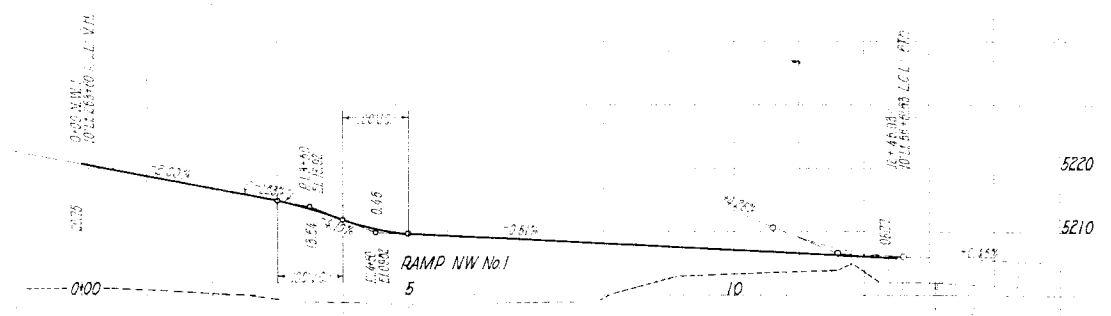
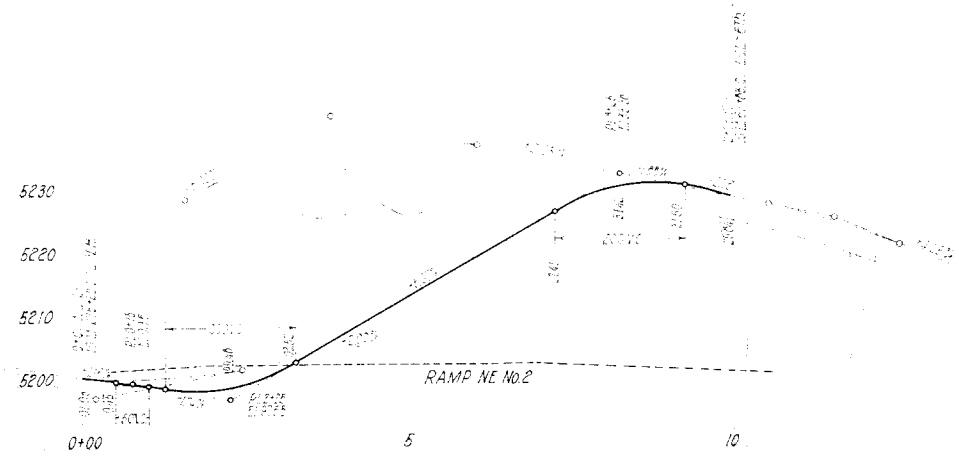
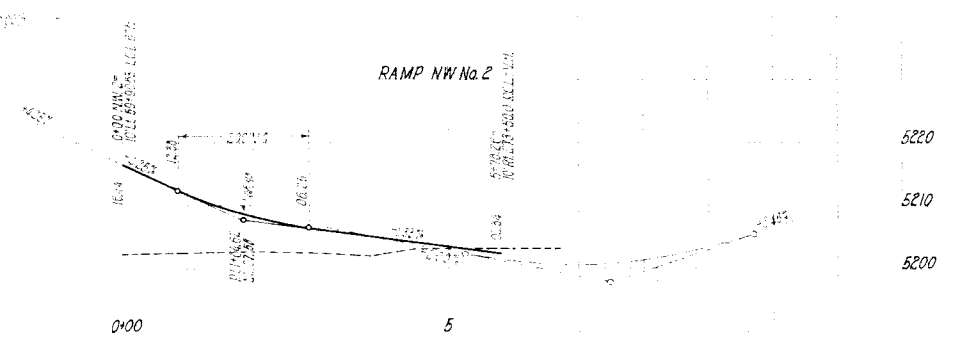
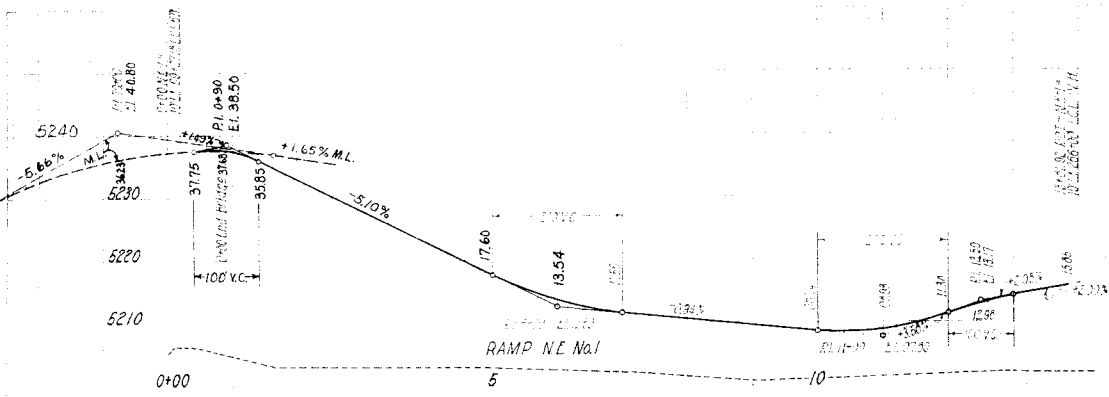
(Future Construction)
 By C & C of Denver

Rev Grades 9-19-56 E.E.O.

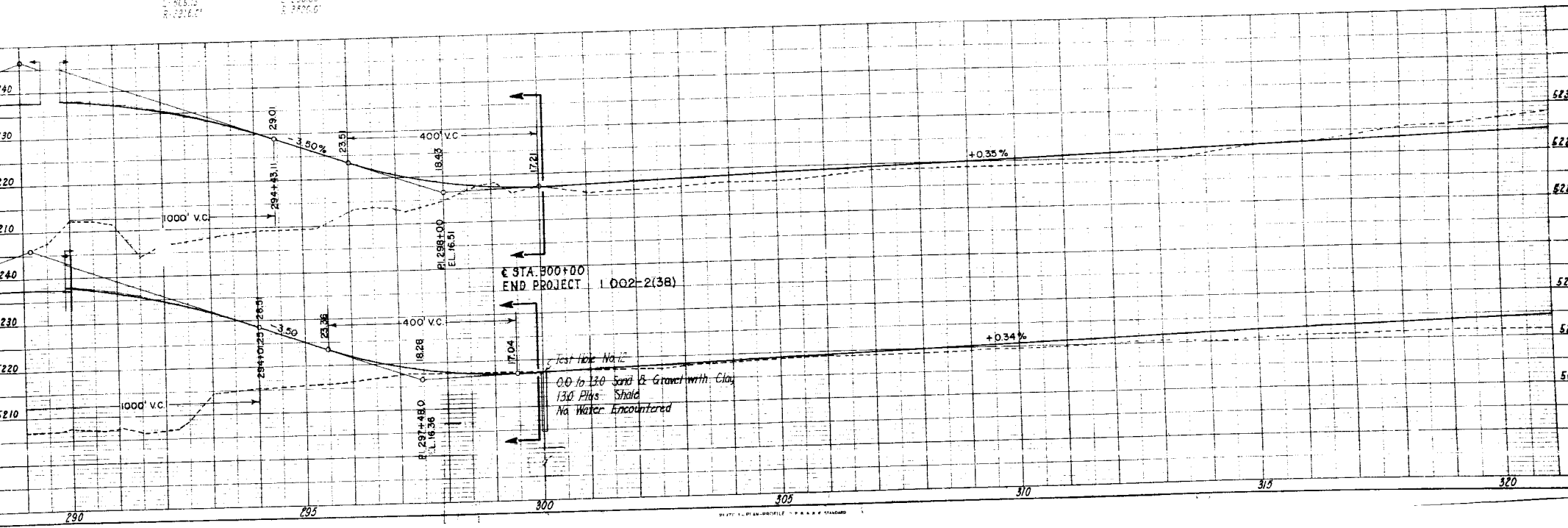
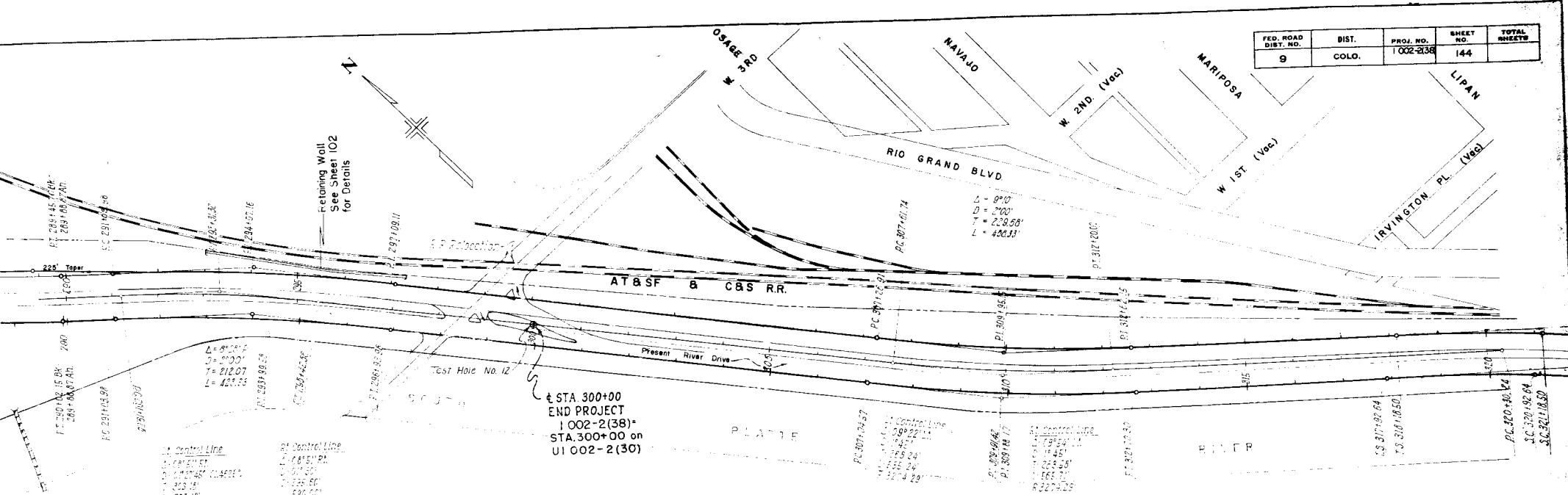
RAMP GRADES 6th Ave Interchange



RAMP GRADES
 6th Ave. Interchange



FED. ROAD DIST. NO.	DIST.	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1002-238	144	



Excavation
Cu. Yds. Area

Embankment
Area Cu. Yds.

Excavation
Cu. Yds. Area

Embankment
Area Cu. Yds.

FED. ROAD DIVISION NO. 9	DISTRICT COLO.	PROJ. NO. U1002-2(17) UNIT 1 U1002-2(38) UNIT 1 1002-2(38)	SHEET NO. 148	TOTAL SHEETS
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SUMMARY OF EARTHWORK QUANTITIES

SPEER BLVD. MARKET ST. 6th. AVE. PROJECT TOTALS
U1002-2(38) UNIT 1 U1002-2(17) UNIT 1 U1002-2(38) UNIT 1 1002-2(38)

EXCAVATION

FROM CROSS SECTIONS
BORROW FROM WEST 6TH AVE. EAST & WEST OF FEDERAL ⊗
BORROW FROM PIT NO. 1
BORROW FROM PIT NO. 2
ESTIMATED FOR SUBSIDENCE
ESTIMATED FOR CUT SLOPE TREATMENT & COVERING ENDS OF CULVERTS

525,443	10,937	10,967	547,347
26,272	547	246,938	246,938
1,000	100	172,000	172,000
552,715	11,584	2,1495	48,314
		100	1,200
		451,500	1,015,799 CU. YDS.

UNCLASSIFIED DITCH EXCAVATION

ESTIMATED FOR U1002-2(23) UNIT 1 50 CU. YDS.
U1002-2(17) UNIT 1 50
U1002-2(38) UNIT 1 100
TOTAL 200 CU. YDS.

EMBANKMENT

FROM CROSS SECTIONS

26,281	90,600	782,147	899,028 CU. YDS.
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EMBANKMENT x FACTOR

32,851	113,250	977,684 ⊗	1,123,785 CU. YDS. ⊗
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SURPLUS

TO BE USED IN EMBANKMENT ON
* USE 102,313 CU. YDS. ON U1002-2(17) UNIT 1 MARKET ST.
* USE 390,279 CU. YDS. ON U1002-2(38) UNIT 1 6TH. AVE.

* 492,592

⊗ 157,500 Cu. Yds. of This Embankment Was Placed and Compacted on Project No. U012-2(3)

STATION YARD OVERHAUL

FROM MASS DIAGRAM
ESTIMATED FOR SUBSIDENCE

FH	1,125,443	890,1387	1,002,4930
	562,72	445,069	501,341
TOTALS	1,181,715	934,6456	1,052,8171 STA. YDS.

YARD MILE OVERHAUL

FROM MASS DIAGRAM
ESTIMATED FOR SUBSIDENCE

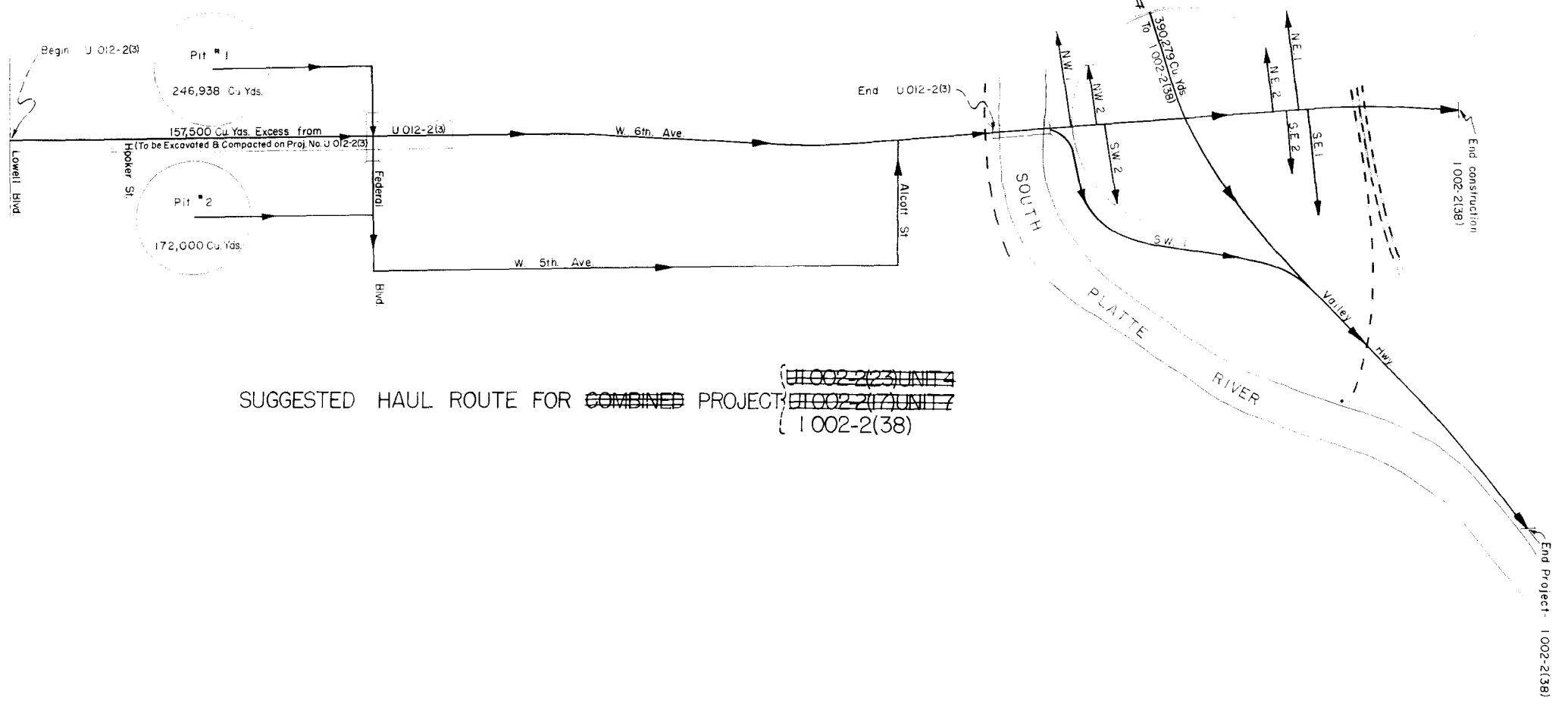
FH	115,893	1,088,116	1,204,009
	5,795	54,406	60,201
TOTALS	121,688	1,142,522	1,264,210 YD. MILE

COMPACTION

EXCAVATION
BASE OF CUTS & FILLS

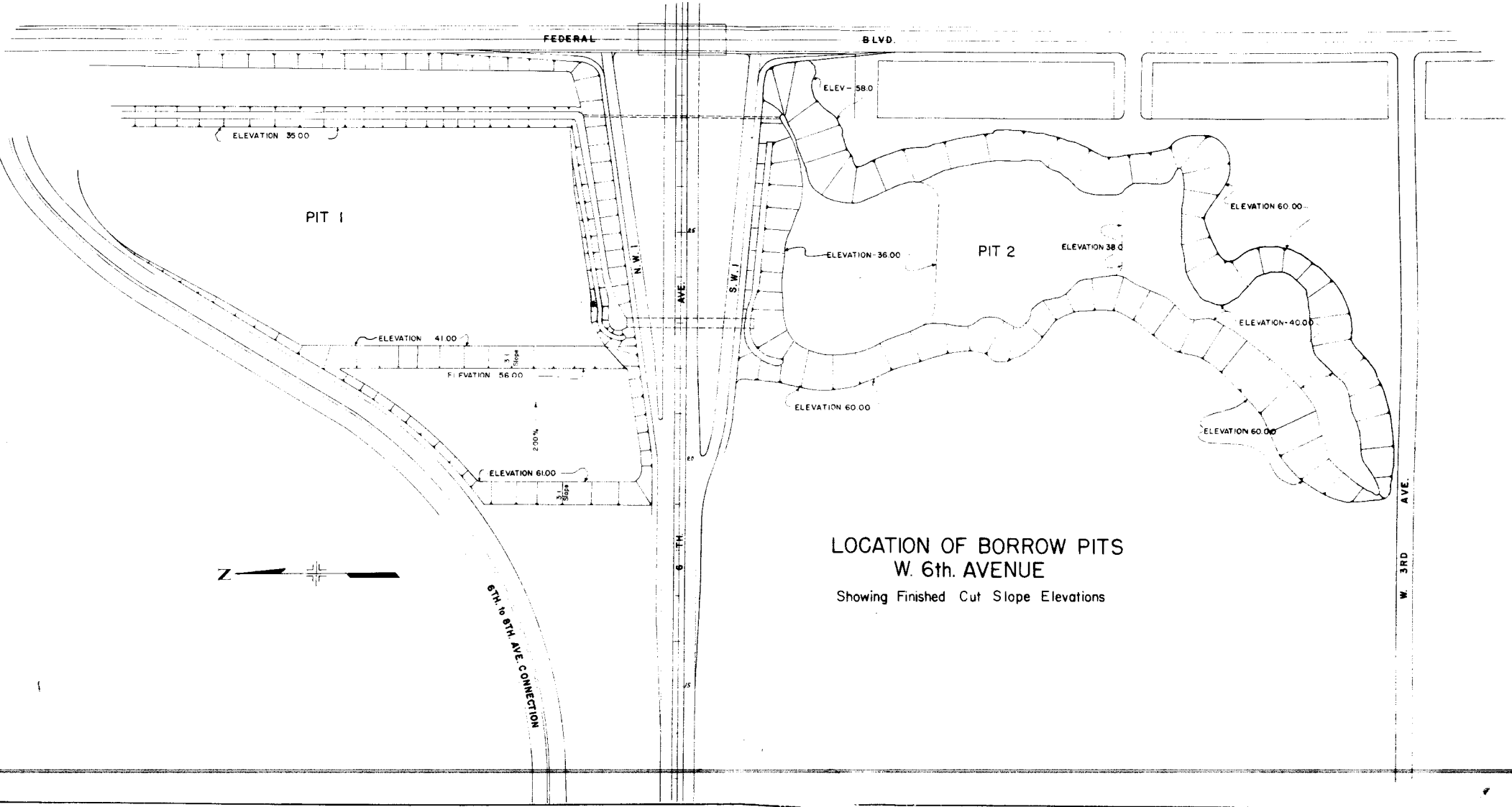
	32,851	113,250	820,184	966,285
	6,421	19,541	64,606	90,568
TOTALS	39,272	132,791	884,790	1,056,853 CU. YDS.

	PROJ. NO.	SHEET NO.
	1 002-2(38)	46



SUGGESTED HAUL ROUTE FOR COMBINED PROJECT ~~U 012-2(3) UNIT 4~~
~~U 012-2(7) UNIT 7~~
 U 012-2(38)

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOT. SHEETS
9	COLO.	1002-2(38)	147	150



LOCATION OF BORROW PITS
W. 6th. AVENUE
Showing Finished Cut Slope Elevations