

"M" STANDARDS

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M-206-AB	EXCAVATION AND BACKFILL FOR STRUCTURES	5-08-78
M-300-A	LETTERS AND FIGURES FOR STRUCTURE NUMBERS	3-28-75
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M-501-MK	WINGWALLS FOR PIPE OR BOX CULVERTS	1-16-78
M-603-CA	CONCRETE AND METAL END SECTIONS	8-29-77
M-603-MA	METAL CULVERT PIPE - W-20 LOADING	11-03-78
M-603-RC	REINFORCED CONCRETE PIPE	7-13-75
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"S" STANDARDS

S-612-1A	TYPICAL DELINEATOR INSTALLATIONS	(4 SHEETS)	10-23-77
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S-614-21B	CLASS II GROUND SIGN INSTALLATIONS		12-02-69
S-614-22C	TYPICAL MARKER ASSEMBLY INSTALLATIONS		6-15-71
S-614-23C	LAMINATED ALUMINUM PANELS AND POST SPACING TABLE FOR CLASS III SIGNS	(2 SHEETS)	5-08-78
S-614-24B	EXTRUDED ALUMINUM PANELS FOR CLASS III SIGNS		5-08-78
S-614-26C	BREAK-AWAY SIGN SUPPORT DETAILS FOR GROUND SIGNS	(2 SHEETS)	5-02-74
S-614-27C	CONCRETE, FOOTINGS AND SIGN ISLANDS FOR CLASS III SIGNS	(2 SHEETS)	9-24-75
S-614-310	U.S. AND COLORADO ROUTE MARKERS		5-09-78
S-614-330	MILEPOST SIGN AND INSTALLATION		10-28-77
S-614-34C	TRAFFIC SIGNAL INSTALLATION DETAILS	(3 SHEETS)	1-10-79
S-614-35A	TYPICAL MULTI-SIGN INSTALLATIONS		11-17-71
S-614-33A	MEDIAN BARRIER SIGN POST INSTALLATIONS		5-08-73
S-614-39A	TRAFFIC SIGNING FOR HIGHWAY CONSTRUCTION	(4 SHEETS)	5-08-78
S-614-52B	BARRICADES, DRUMS, CONCRETE BARRIER (TEMP) AND VERTICAL PANELS		1-10-79
S-627-1A	TYPICAL PAVEMENT MARKINGS	(2 SHEETS)	10-28-77

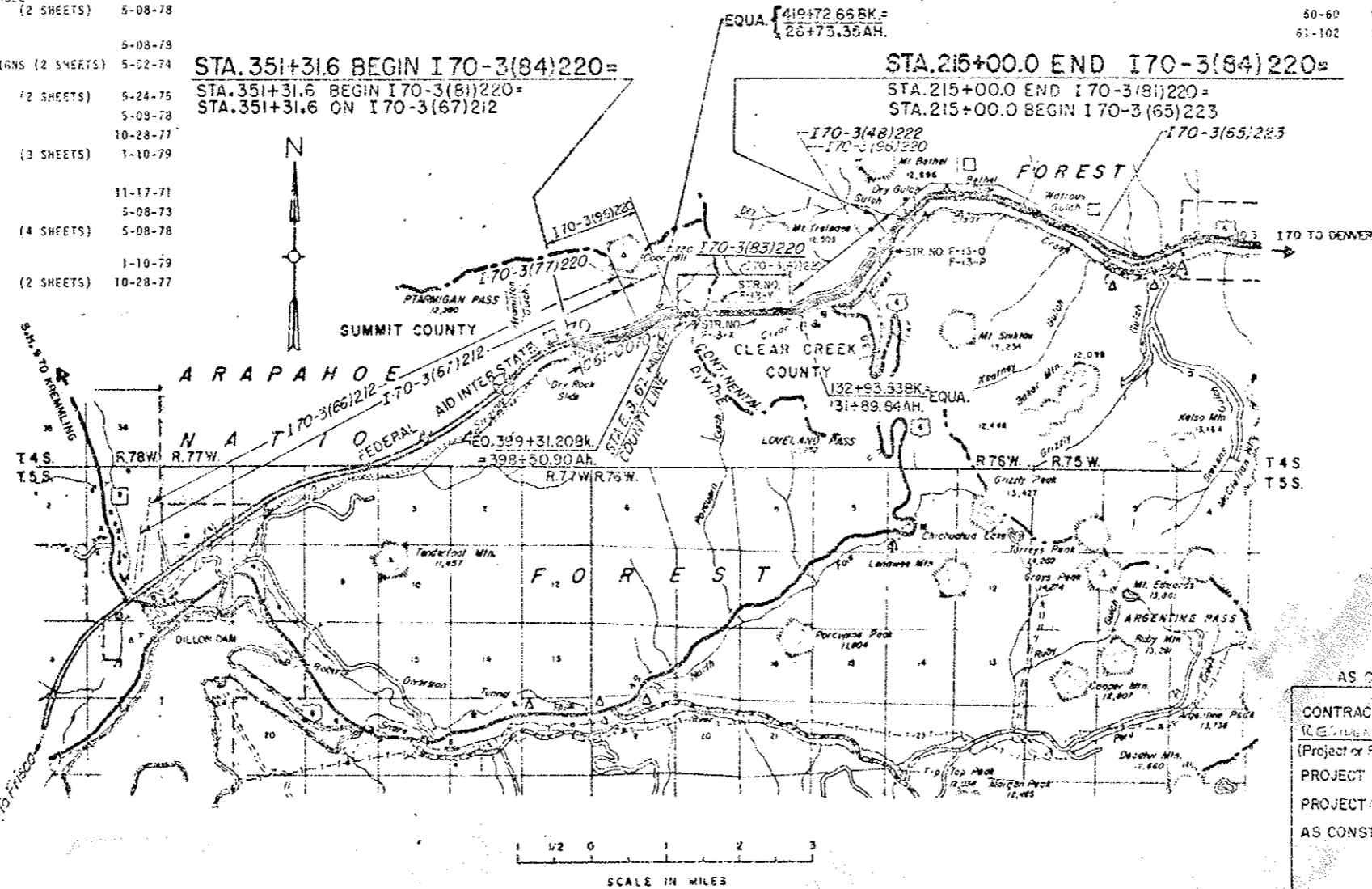
DEPARTMENT OF HIGHWAYS
STATE OF COLORADO

PLAN AND PROFILE OF PROPOSED
FEDERAL AID PROJECT NO. I 70-3 (84) 220
STATE HIGHWAY NO. 70

SUMMIT AND CLEAR CREEK COUNTIES

SCALES OF ORIGINAL DRAWINGS

ON PLANS AS SHOWN
ON PROFILES AS SHOWN
GRADE LINE ON PROFILES IS SHOWN AS GRADE OF FINISHED ROADWAYS



(R-1) Added Std., Rev. Index 5-13-79 E.B.

FEDERAL ROAD DISTRICT NO.	DIVISION	PROJECT NO.	SHEET NO.
XIII	COLORADO	I 70-3(84) 220	1

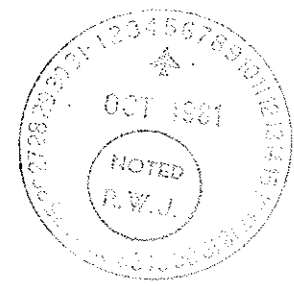
R.O.W. Acquired Under: I 70-3(14)220
I 70-3(16)
I 70-3(26)
P.E. under I 70-3(78)

AS CONSTRUCTED

NO REVISIONS REVISED VOID

INDEX OF SHEETS

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15	STRUCTURE LIST
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28	DETAILS OF GUARD RAIL TYPE 4 SPECIAL
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DIVISION OF HIGHWAYS

APPROVED: *[Signature]* 4-2379 DATE

AS CONSTRUCTED INFORMATION

CONTRACTOR *Flaming Prairie*

REGISTERED ENGINEER *[Signature]*

(Project or Resident)

PROJECT STARTED *5-22-79*

PROJECT COMPLETED *12-22-80*

AS CONSTRUCTED PLANS

APPROVED: *[Signature]*

TITLE DATE

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____

DIVISION ADMINISTRATOR

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.
VIII	COLORADO	I 70-3(81)220	2
AS CONSTRUCTED			
NO REVISIONS	12-22-80	REVISED	VOID

GENERAL NOTES

TABULATION OF LENGTH AND DESIGN DATA

STATION	ROADWAY LIN. FT.	MAJOR STRUCTURES	
		TUNNEL LIN. FT.	BRIDGES LIN. FT.
351+31.60 BEGIN I 70-3(84)220 351+31.60 BEGIN I 70-3(81)220	4799.60		
399+31.20 BK. " EQUATION 398+50.90 AH.		2121.76	
419+72.66 BK. " EQUATION 26+73.35 AH.	924.47		
35+97.82 BEGIN STRUCTURE NO. F-13-X		2642.65	
62+40.47 COUNTY LINE	6316.81		
125+57.28 END STRUCTURE NO. F-13-X		736.25	
132+93.53 BK. " EQUATION 131+89.84 AH.	3978.44		
171+68.28 STRUCTURE NOS. F-13-O & F-13-P 174+46.21		4053.79	
215+00.00 END I 70-3(84)220 215+00.00 END I 70-3(81)220			
TOTALS	16614.31	8959.46	277.93
SUMMARY		LIN. FT.	MILES
SUMMIT COUNTY ROADWAY	7845.83	1.486	
MAJOR STRUCTURES	2642.65	0.500	
TOTAL (NET AND GROSS)	10488.48	1.986	
CLEAR CREEK COUNTY ROADWAY	8768.48	1.661	
MAJOR STRUCTURES	6594.74	1.249	
TOTAL (NET AND GROSS)	15363.22	2.910	
GRAND TOTAL (NET AND GROSS)	25851.70	4.896	
DESIGN DATA			
MAXIMUM DEGREE OF CURVE	4°00'		
MAXIMUM GRADE	7.00%		
MINIMUM SSD HORIZONTAL	375'		
MINIMUM SSD VERTICAL	490'		
MAXIMUM DESIGN SPEED	50 MPH		
DESIGN TRAFFIC VOLUME			
1994 ADT	15,500		
1994 DDHV	2,060		

FOR PRELIMINARY PLAN QUANTITIES OF BITUMINOUS MATERIALS AND COVER COAT MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED:

PRIME COAT (MC-70) @ .30 GALS./SQ.YD.
 TACK COAT DILUTED EMUL. ASPH. (CSS-1H) @ .10 GALS./SQ.YD. (DILUTED)
 BITUMINOUS PAVEMENT @ 110 LBS. PER SQ.YD./INCH
 PLANT MIXED SEAL COAT @ 110 LBS. PER SQ.YD./INCH

DILUTED EMULSIFIED ASPHALT FOR TACK COAT SHALL CONSIST OF 1 PART EMULSIFIED ASPHALT AND 1 PART WATER.

RATES OF APPLICATION SHALL BE AS DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION.

THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER:

1. A SKI TYPE DEVICE AT LEAST 30 FEET IN LENGTH.

ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.
 ALL LONGITUDINAL PAVEMENT JOINTS SHALL BE PROTECTED TO PREVENT BREAKDOWN OF PAVEMENT EDGES.

ROAD APPROACHES WHICH REQUIRE BITUMINOUS PAVEMENT SHALL BE CONSTRUCTED TO A THICKNESS EQUAL TO THAT OF THE ADJACENT ROADWAY AS FOLLOWS:

PUBLIC APPROACHES AND ENTRANCES TO BUILDINGS OR RESIDENCES SHALL BE PAVED 50 FEET OUT FROM EDGE OF SHOULDER OR TO THE RIGHT OF WAY LINE, WHICHEVER IS LESS. FIELD ENTRANCES SHALL BE PAVED 4 FEET OUT FROM EDGE OF SHOULDER.

IT IS ESTIMATED THAT 1200 HOURS OF FLAGGING AND 75 DAYS OF TRAFFIC CONTROL SUPERVISION FOR CONTROLLING TRAFFIC WILL BE REQUIRED FOR THIS PROJECT.

CONCRETE PIPE JOINT FASTENERS AS SHOWN ON M STANDARD ARE REQUIRED ON:

ALL CONCRETE CULVERT INSTALLATIONS INCLUDING SIDE DRAINS.

FLEXIBLE CONDUITS ON THIS PROJECT WITH HELICAL CORRUGATIONS, JOINED BY DIMPLED CONNECTING BANDS, SHALL USE A SEALING COMPOUND OR GASKET WITH THE CONNECTING BAND.

IT IS ESTIMATED THAT 150 HOURS OF DOZING WITH A POWER CRAWLER TYPE TRACTOR WILL BE REQUIRED.

IT IS ESTIMATED THAT 111,400 SQ. YDS. OF RECONDITIONING WILL BE REQUIRED ON EASTBOUND LANES STA. 400+00 TO 35+, THRU THE SOUTH TUNNEL, AND STA. 132+ TO 135+00, ON BOTH LOOP ROADS, ON ALL NEW PARKING AREAS, AND ON THE S.W. RAMP TO U.S. 6.

IT IS ESTIMATED THAT STRUCTURE NO. F-13-P WILL REQUIRE 1,297 SQ. YDS. OF WATER-PROOFING (MEMBRANE).

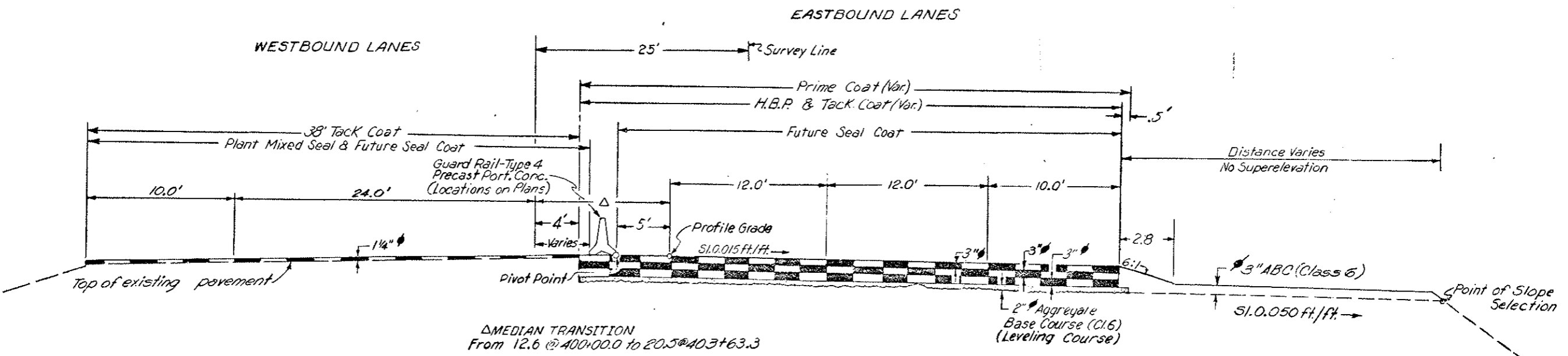
FOR THE TUNNEL INTERIOR, THE DIVISION WILL ESTABLISH PROFILE GRADE CONTROLS WHICH WILL SERVE AS A GUIDE TO THE CONTRACTOR IN THE PLANING AND PAVING OPERATIONS.

PAVERS CAPABLE OF OPERATING FROM WIRE LINE CONTROLS SHALL BE FURNISHED BY THE CONTRACTOR FOR THIS WORK.

TYPICAL SECTIONS

FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I70-3(84)220	3	102
NO. REVISIONS <u>12-22-80</u> REVISED <input type="checkbox"/> / 10/19 <input type="checkbox"/>				

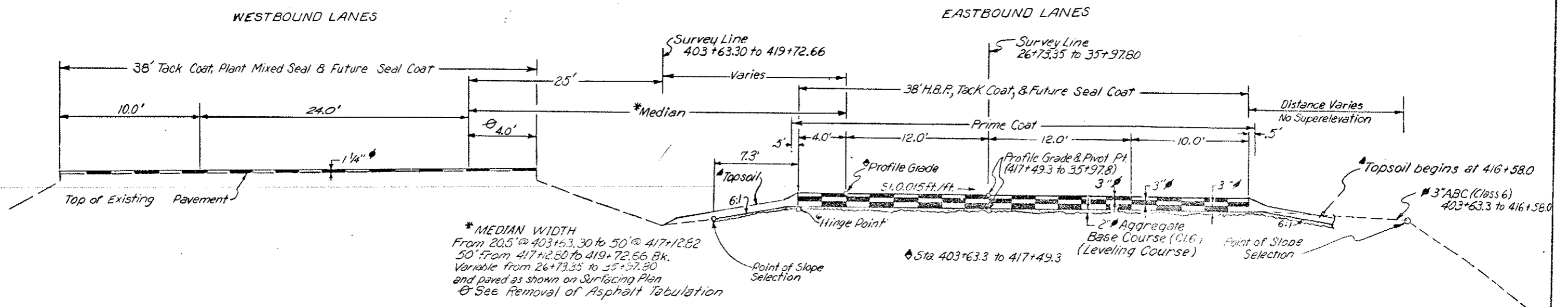
SECTION "A" 400+00.0 to 403+63.3



◊ Approximate Thickness

▲ For Topsoil Locations see Topsoil Tabulation

SECTION "B" 403+63.30 to 419+72.66 BK. = 26+73.35 AH. to 35+97.80

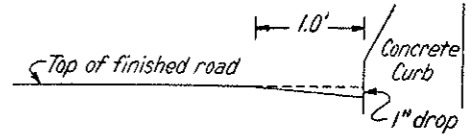
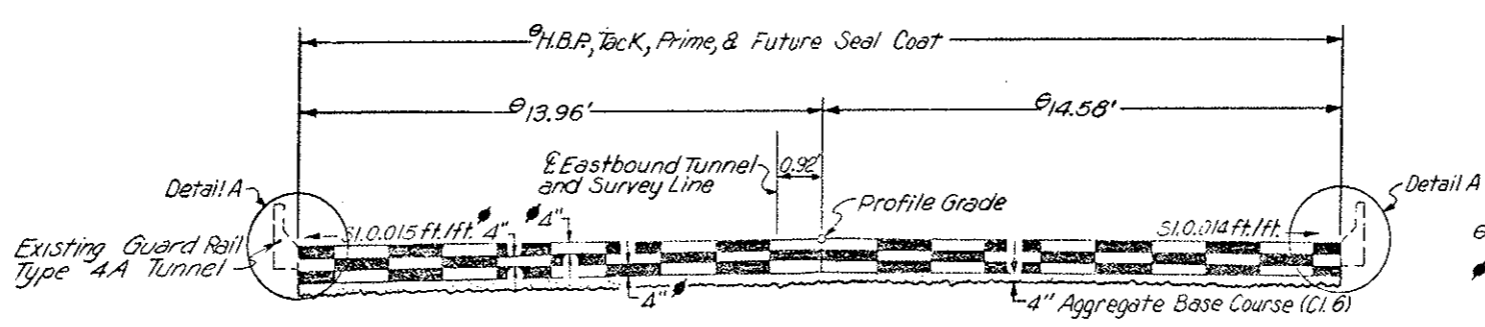


TYPICAL SECTIONS

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70-3(84)220	4	102
AS CONSTRUCTED				
NO REVISIONS		222-82	REVISED	VOID

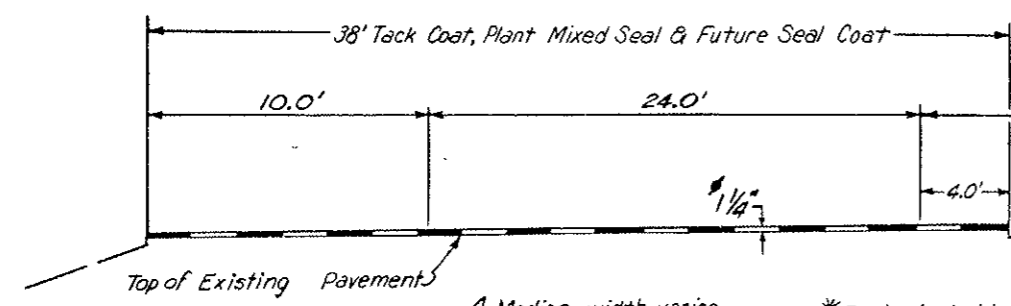
SECTION "C"

35+97.8 TO 125+57.3
 Tunnel Section
 EASTBOUND LANES



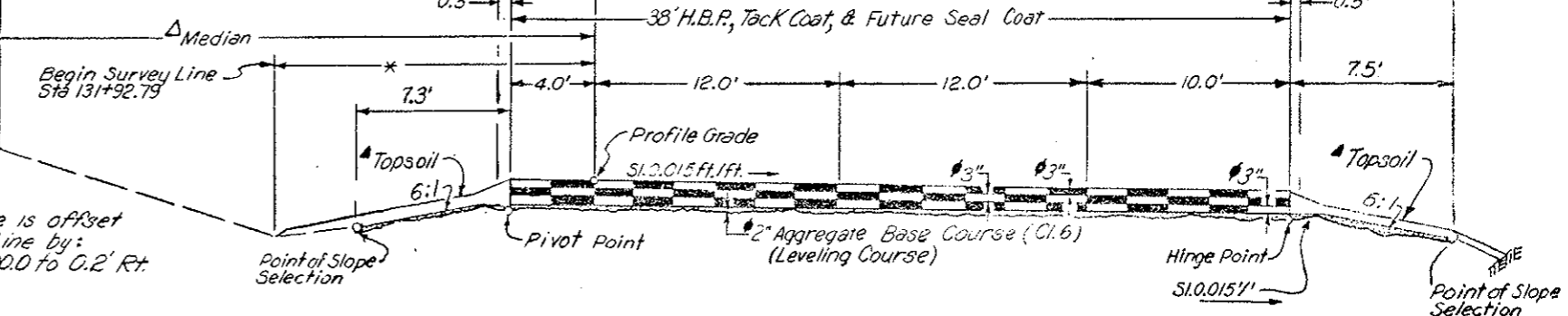
θ Varies at Portals
 ♦ Approximate Thickness
 ▲ For Topsoil Locations see Topsoil Tabulation.

WESTBOUND LANES



SECTION "D"

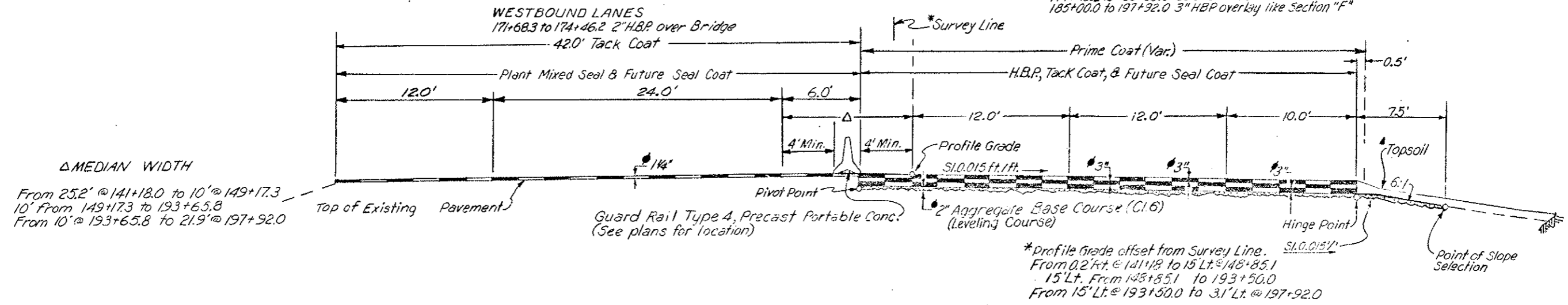
125+57.3 TO 141+18.0
 (See Plans for Equation)



Δ Median width varies and will be paved as shown on the Surfacing Plan.
 * Projected Line is offset from Survey Line by:
 19.5' Rt. @ 132+00.0 to 0.2' Rt. at 141+18.0

SECTION "E"

141+18.0 TO 197+92.0
 (Except as Noted)



EASTBOUND LANES
 141+18.0 to 171+68.3 - as shown below.
 171+68.3 to 174+46.2 2" H.B.P. over Bridge
 174+46.2 to 185+00.0 as shown below
 185+00.0 to 197+92.0 3" H.B.P. overlay like section "F"

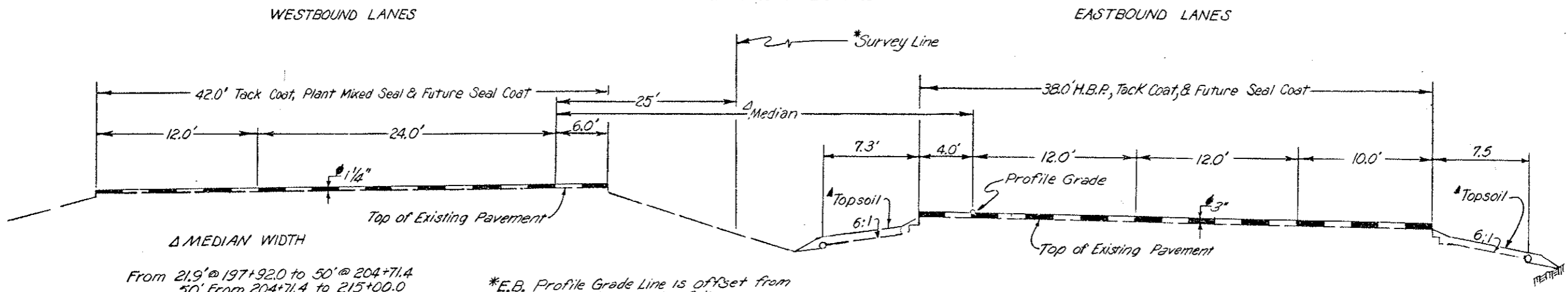
Δ MEDIAN WIDTH
 From 25.2' @ 141+18.0 to 10' @ 149+17.3
 10' From 149+17.3 to 193+65.8
 From 10' @ 193+65.8 to 21.9' @ 197+92.0

* Profile Grade offset from Survey Line.
 From 0.2' Lt. @ 141+18.0 to 15' Lt. @ 148+85.1
 15' Lt. From 148+85.1 to 193+50.0
 From 15' Lt. @ 193+50.0 to 3.1' Lt. @ 197+92.0

TYPICAL SECTION

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70-3(84)220	5	162
AS CONSTRUCTED				
NO REVISIONS		REVISED	12-22-80	VOID

SECTION "F" 197+92.0 to 215+00.0



Δ MEDIAN WIDTH
 From 21.9' @ 197+92.0 to 50' @ 204+71.4
 50' From 204+71.4 to 215+00.0

*E.B. Profile Grade Line is offset from the Survey Line by the following:
 From 3' Lt. @ 197+92.0 to 25' Rt. @ 204+71.4
 25' Rt. from 204+71.4 to 215+00

● Approximate Thickness

▲ For Topsoil Locations see Topsoil Tabulation

Material shall be placed in separate courses at the following approximate rates per 100 lin. ft. of roadway

TYPICAL SECTION	TOP LAYER	MIDDLE LAYER	BOTTOM LAYER	BASE COURSE	PLANT MIXED SEAL COAT
	TONS	TONS	TONS	TONS	TONS
A	78	78	78	48	29
B	70	70	70	59	29
C	70	70	70	64	
D	70	70	70	59	29
E	70	70	70	43	32
● E	70				34
F	70				32
Ramps	54		54	40	
Loop Roads	46		46	29	
S.H. 6					25

The rates shown have been determined from information available at the time of design. Rates should be adjusted during construction to obtain the required approximate thickness.

Pavement layer thickness may be changed by the Engineer during Construction.

● 3" H.B.P. Overlay

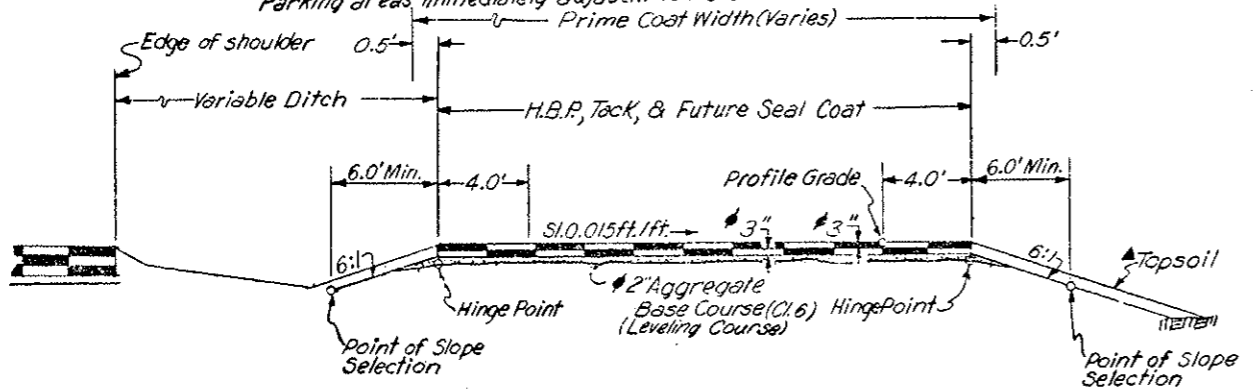
TYPICAL SECTIONS

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70-3(84) 220	6	102

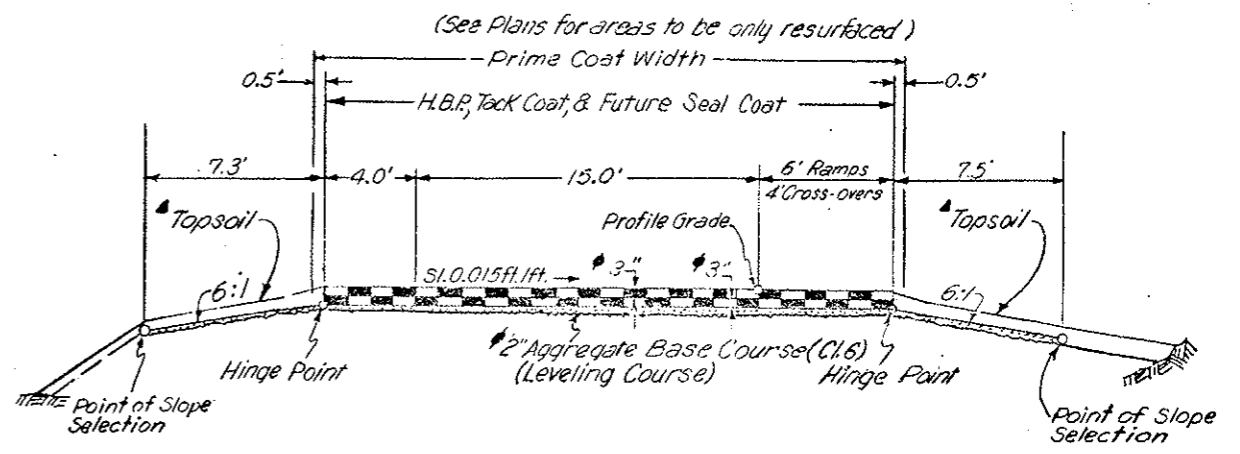
AS CONSTRUCTED

NO REVISIONS REVISIONS VOID

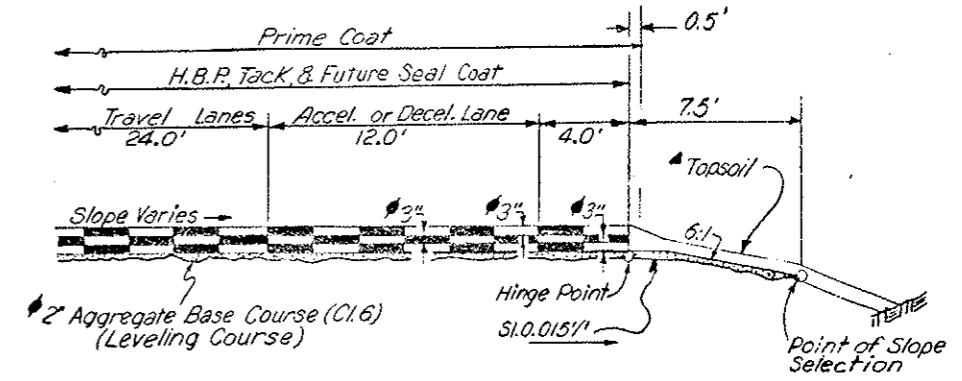
PARKING AREAS AND ACCESS ROADS TO AND FROM PARKING
 (See Plans for areas to be only resurfaced)
 Parking areas immediately adjacent to the shoulders shall be sloped as directed.



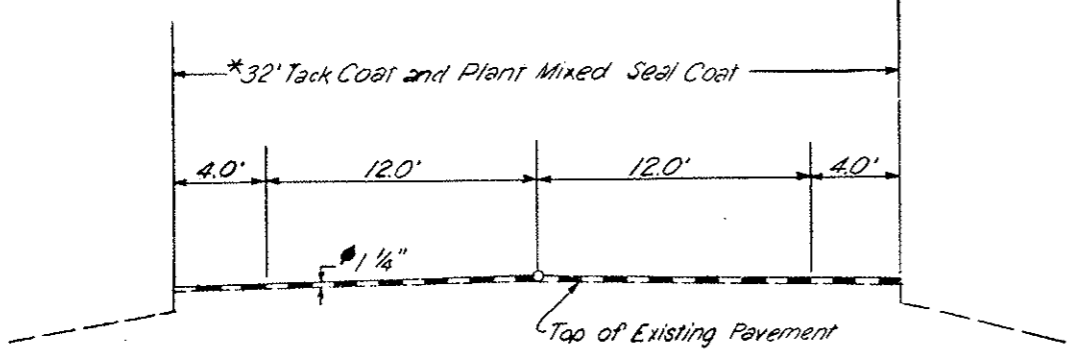
CROSS-OVER ROADS AND S.H. 6 RAMP
 (See Plans for areas to be only resurfaced)



ACCEL. AND DECEL. LANES
 (See Plans for areas to be only resurfaced)



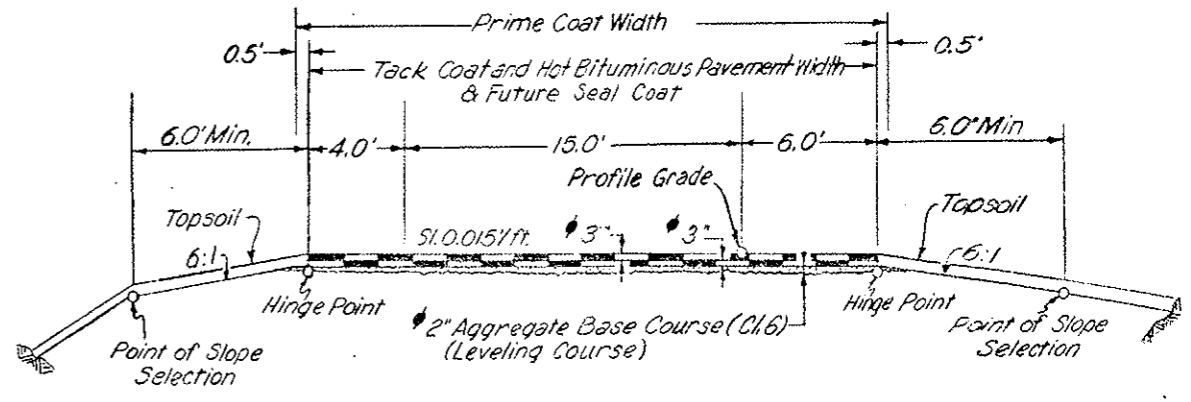
S.H. 6
 147+00.0 To 196+79.0



* Ramps between S.H. 6 and W.B. I-70 are of variable width.

• Approximate Thickness
 ▲ For Topsoil Locations see Topsoil Tabulation.

LOOP ROAD



CONTRACT MODIFICATION ORDERS FINAL SUMMARY

FEDERAL ROAD REGION NO	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70-3(94)220	6A	102
AS CONSTRUCTED				
NO REVISIONS		REVISED	12-22-80	VOID

C.M.O. NO.	DESCRIPTION OF ITEM	PROJECTED AMOUNT		FINAL AMOUNT	FUNDING
		ESTIMATE AMOUNT	ACCUM. AMOUNT		
1	FA-02, MINOR CONTRACT REVISION ORDER (0272) LINE ITEMS 1 THRU 35	\$ 50,000.00			
	LINE ITEM 1 - REMOVAL OF DEAD ANIMAL	\$ 75.00	\$ 75.00	\$ 75.00	NON-PARTICIPATING
	LINE ITEM 2 - EXPLORATORY EXCAVATION - (DELETED BY C.M.O. 6, * 7790)	\$ 2,500.00	\$ 2,575.00	\$ 0.00	DELETED BY C.M.O. 6
	LINE ITEM 3 - BLADING HRS.	\$ 1,100.00	\$ 3,675.00	\$ 165.00	PARTICIPATING
	LINE ITEM 4 - FOUNDATION REMOVAL	\$ 1,000.00	\$ 4,675.00	\$ 1,736.28	"
	LINE ITEM 5 - SEWER REPAIR	\$ 600.00	\$ 5,275.00	\$ 2,162.16	"
	LINE ITEM 6 - DRAGLINE HRS.	\$ 925.00	\$ 6,200.00	\$ 4,486.25	"
	LINE ITEM 7 - ADJUST MANHOLE, STA. 131+	\$ 800.00	\$ 7,000.00	\$ 319.42	"
	LINE ITEM 8 - REMOVE ASPHALT, BRIDGE F-13-0	\$ 2,000.00	\$ 9,000.00	\$ 2,111.79	NON-PARTICIPATING
	LINE ITEM 9 - BRIDGE DECK REPAIR, F-13-0	\$ 2,000.00	\$ 11,000.00	\$ 4,570.42	"
	LINE ITEM 10 - BRIDGE JOINT REPAIR, F-13-0	\$ 1,000.00	\$ 12,000.00	\$ 756.61	PARTICIPATING
	LINE ITEM 11 - DROP INLET AT ENGINEERING FACILITY	\$ 1,000.00	\$ 13,000.00	\$ 2,339.42	"
	LINE ITEM 12 - JUNCTION BOX, LEFT STA. 130	\$ 1,500.00	\$ 14,500.00	\$ 2,984.17	"
	LINE ITEM 13 - LOWER DROP INLET, STA. 171+ (DELETED BY C.M.O. 14, * 7876)	\$ 1,400.00	\$ 15,900.00	\$ 0.00	DELETED BY C.M.O. 14
	LINE ITEM 14 - WIRING FOR TRAFFIC SIGNALS	\$ 1,500.00	\$ 17,400.00	\$ 2,659.58	PARTICIPATING
	LINE ITEM 15 - WATER VALVE MANHOLE, W. P. LOOP RD., STA. 11+ RT.	\$ 2,000.00	\$ 19,400.00	\$ 1,627.70	"
	LINE ITEM 16 - ADJUST MEDIAN INLETS (DELETED BY C.M.O. 14, * 7876)	\$ 2,000.00	\$ 21,400.00	\$ 0.00	DELETED; PLACED ON C.M.O. 14
	LINE ITEM 17 - ADJUST GAS VALVE COVERS	\$ 1,500.00	\$ 22,900.00	\$ 443.73	PARTICIPATING
	LINE ITEM 18 - RESHAPE SLOPE E. P. LOOP ROAD - (DELETED BY C.M.O. 13, * 7955)	\$ 1,000.00	\$ 23,900.00	\$ 0.00	DELETED BY C.M.O. 13
	LINE ITEM 19 - REMOVE 30' TYPE 4 BARRIER, STA. 350	\$ 500.00	\$ 24,400.00	\$ 134.90	PARTICIPATING
	LINE ITEM 20 - DELINEATORS FOR TYPE 4 BARRIERS	\$ 1,500.00	\$ 25,900.00	\$ 1,334.34	"
	LINE ITEM 21 - CREDIT FOR WOOD SIGN POSTS	-\$ 243.00	\$ 25,657.00	-\$ 85.80	"
	LINE ITEM 22 - REMOVE & LOAD TYPE 4 BARRIERS	\$ 1,000.00	\$ 26,657.00	\$ 3,026.38	NON-PARTICIPATING
	LINE ITEM 23 - ASPHALT REJUVENATOR	\$ 1,500.00	\$ 28,157.00	\$ 848.50	PARTICIPATING
	LINE ITEM 24 - ALUMINUM POLE BASE	\$ 150.00	\$ 28,307.00	\$ 132.26	"
	LINE ITEM 25 - SERVICE RISER & DISCONNECT	\$ 550.00	\$ 28,857.00	\$ 537.48	"
	LINE ITEM 26 - PARSHALL FLUME	\$ 1,000.00	\$ 29,857.00	\$ 201.81	"
	LINE ITEM 27 - ADJUST INLET GRATES & FRAMES	\$ 1,300.00	\$ 31,157.00	\$ 1,225.91	"
	LINE ITEM 28 - TEMPORARY SIGNING	\$ 1,500.00	\$ 32,657.00	\$ 4,264.54	"
	LINE ITEM 29 - REMOVE 18" C.S.P.	\$ 1,500.00	\$ 34,157.00	\$ 1,470.62	NON-PARTICIPATING
	LINE ITEM 30 - RESET SIGN NO. 74 (DELETED BY FORM 105; PAID UNDER BID ITEM 210)	\$ 3,500.00	\$ 37,657.00	\$ 0.00	DELETED; PAID BY BID ITEM
	LINE ITEM 31 - RESET LIGHT AT U.S. 6	\$ 2,500.00	\$ 40,157.00	\$ 0.00	DELETED; NO BILL
	LINE ITEM 32 - PATCHING ON U.S. 6	\$ 4,500.00	\$ 44,657.00	\$ 5,397.78	PARTICIPATING
	LINE ITEM 33 - LAND PLANE USE	\$ 400.00	\$ 45,057.00	\$ 390.75	"
	LINE ITEM 34 - TRANSPORTATION COSTS FOR BARRIER	\$ 120.00	\$ 45,177.00	\$ 866.91	"
	LINE ITEM 35 - FURNISHED AUTHORIZED PERSONNEL SIGNS	\$ 150.00	\$ 45,327.00	\$ 293.25	"

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70-3(24)220	6B	102
AS CONSTRUCTED				
NO REVISIONS	<input type="checkbox"/>	REVISED	12-22-87	VOID <input type="checkbox"/>

CONTRACT MODIFICATION ORDERS FINAL SUMMARY

C.M.O. NO.	DESCRIPTION OF ITEM	PROJECTED AMOUNT	FINAL AMOUNT	FUNDING
2, NO. 7331	INCORPORATION OF COPPER MOUNTAIN PIT INTO PROJECT LIMITS.	NO COST TO PROJECT	\$ 0.00	
3, NO. 5000	MODIFICATION OF 401.08(a)5 METHOD B OF THE STANDARD SPECIFICATIONS.	-\$4,560.00	- \$4,560.00	
4, NO. 4961	TEMPORARY SUSPENSION OF PG. 91 OF THE SPECIAL PROVISIONS.	-\$1,107.00	- \$1,107.00	PARTICIPATING
5, NO. 7786	ELIMINATE DIRECT BURIAL CABLE & 2" ELEC. CONDUIT; SUBSTITUTE 1 1/2" ELEC. CONDUIT.	-\$75,200.00	- \$38,481.13	"
6, NO. 7790	ADDITIONAL WORK DUE TO SUBSURFACE CONDITIONS AT 18" C.M.P., STA. 124+39.4 TO 126+95.	\$7,033.23	\$7,033.23	"
7, NO. 4952	MODIFICATION OF STANDARD SPECIFICATION 410.03(d)(e); DUMPING & ROLLING PLANT MIX SEAL.	-\$1,600.00	- \$1,600.00	"
8, NO. 7791	MODIFICATION OF 46 MANHOLE RINGS	\$6,756.10	\$6,756.10	"
9, NO. 7796	CONTRACT TIME EXTENSION	NO COST TO PROJECT	\$0.00	"
10, NO. 7797	EAST PORTAL DELAY	\$9,968.53	\$9,970.00	"
11, NO. 7799	WEST PORTAL ASPHALT REMOVAL	\$27,354.07	\$27,354.07	NON-PARTICIPATING
12, NO. 7954	8" PCSP AT FROST HEAVE, STA. 215 WEST BOUND LANE	\$5,640.00	\$11,298.80	PARTICIPATING
13, NO. 7955	REPLACE MATERIAL DAMAGED BY WINTER OPERATIONS & EROSION	\$15,000.00	\$10,375.94	PARTICIPATING (PLUS \$10,364.51, NON-PARTICIPATING)
14, NO. 7876	ADJUST DROP INLETS BUILT ON PRIOR PROJECTS, I 70-3(34)220 & I 70-3(81)220	\$6,247.35	\$6,247.35	"
15, NO. 7882	PARSHALL MEASURING FLUME, 30 DAY RECORDER	\$1,293.75	\$1,293.75	"
F/A-03	ON THE JOB TRAINEE	\$3,200.00	\$1,165.60	"

(R-2) Revised Quantities 5-18-79 E.B. (R-1) Revised Quantities 5-7-79 E.B.

SUMMARY OF APPROXIMATE QUANTITIES

AS CONSTRUCTED			
NO REVISIONS	REVISED <u>2-22-70</u>	VOID	
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.
VIII	COLORADO	170-3(84)220	7
			TOTAL SHEETS
			102

INDEX	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY	ROADWAY FINAL TOTALS	TUNNEL STR. NO. F-13-X	BRIDGE STR. NO. F-13-0	BRIDGE STR. NO. F-13-P	PROJECT TOTALS	PROJECT FINAL TOTALS	DIFF.	FINAL %
	1 1 305 202	Removal of Structures and Obstructions	LS	1					1	1	0	100%
	1 2 305 202	Removal of Delineator	Each	25	45				25	45	+20	180%
(R-1)	1 3 305 202	Removal of Asphalt Mat	Sq. Yd.	7,727	9156				7,727	9156	+1429	118%
	1 4 305 202	Removal of Pavement Marking	Sq. Ft.	3,000	10,837				3,000	10,837	+7837	361%
	1 5 305 202	Removal of Light Standard	Each	17	17				17	17	0	100%
	1 6 305 202	Removal of Ground Sign	Each	48	53				48	53	+5	110%
	1 7 305 202	Removal of Sign Panel	Each	2					2	2	0	100%
	1 8 305 202	Removal of Traffic Signal Face	Each	2					2	2	0	100%
	1 9 305 202	Removal of Pedestal Pole	Each	2					2	2	0	100%
(R-1)	1 10 305 202	Removal of Fence	Lin. Ft.	1,917	20				1,917	20	-1897	1%
	1 11 305 202	Removal of Guard Rail Type 3	Lin. Ft.	450	480				450	480	+30	107%
	1 12 305 202	Removal of Guard Rail Type 5	Lin. Ft.	1,000					1,000	1,000	0	100%
	1 13 305 202	Plug Culvert	Each	2	3				2	3	+1	150%
(R-2)	1 14 305 203	Unclassified Excavation (Haul)	Cu. Yd.	9,236	19,391				9,236	19,391	+10,155	210%
	1 15 305 203	Rock Fill (Haul)	Cu. Yd.	3,840	2,611				3,840	2,611	-1229	68%
	1 16 305 203	Compaction (AASHTO T99)	Cu. Yd.	2,392	2,483				2,392	2,483	+91	104%
	1 17 305 203	Dozing	Hour	150	113.75				150	113.75	-36.25	76%
(R-2)	1 18 305 206	Structure Excavation	Cu. Yd.	3,119	3782				3,119	3782	+663	121%
(R-2)	1 19 305 206	Structure Backfill (Class 1)	Cu. Yd.	1,070	1379				1,070	1379	+309	129%
	1 20 305 206	Filter Material (Class B)	Cu. Yd.	361	661				361	661	+300	183%

(R-1) Revised Quantities as 5-18-79 E.B.

SUMMARY OF APPROXIMATE QUANTITIES

FINAL

AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	REVISED	VOID	VIII	COLORADO	170-3(64)220	8	102

INDEX	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY	ROADWAY FINAL TOTALS	TUNNEL STR. NO. F-13-X	TUNNEL STR. NO. F-13-X FINAL TOTALS	BRIDGE STR. NO. F-13-O	BRIDGE FINAL TOTALS	BRIDGE STR. NO. F-13-P	BRIDGE FINAL TOTALS	PROJECT TOTALS	PROJECT FINAL TOTALS	DIFF.	FINAL %	
																BOOK
1	21	305	207	Topsoil	Cu.Yd.	16,577	17,590					16,577	17,590	+1013	106%	
1	22	305	209	Wetting	M Gal.	1,115	780					1,115	780	-335	70%	
1	23	305	210	Reset Light Standard	Each	8						8	8	0	100%	
1	24	305	210	Reset Ground Sign	Each	21						21	21	0	100%	
1	25	305	210	Reset Illuminated Ground Sign	Each	1						1	1	0	100%	
1	26	305	210	Reset Overheight Vehicle Detector	Each	1						1	1	0	100%	
1	27	305	210	Reset Guard Rail Type 4	Lin. Ft.	164	524					164	524	+360	319%	
1	28	305	212	Seeding (Native)	Lb.	1,040	1284.0					1,040	1284.0	+244.0	123%	
1	29	305	212	Fertilizer	Lb.	7,800	9084.0					7,800	9084.0	+1284.0	116%	
1	30	305	213	Mulching	Ton	52	52.17					52	52.17	+0.17	100%	
1	31	305	213	Soil Retention Blanket (Jute)	Sq.Yd.	82,215	84,451					82,215	84,451	+2236	103%	
2	32	305	304	Aggregate Base Course (Class 6)(Haul)	Ton	12,686	14,472.40	5,734	5825.95			18,420	20,298.35	+1878.35	110%	
2	33	305	306	Reconditioning	Sq.Yd.	111,400						111,400	111,400	0	100%	
2	34	305	403	Hot Bituminous Pavement (Grading C)(Haul & Asphalt)	Ton	41,389	38,786.70	18,816	18,958.35			60,350	57,897.65	+9537.05	120%	
2	35	305	410	Plant Mixed Seal (Type B)(Haul & Asphalt)	Ton	6,133	7505.78			110	109.20	6,243	7614.98	+831.98	112%	
2	37	305	411	Emulsified Asphalt (CSS-1H)	Gal.	15,996	10,418	2,841	2134	59	59	18,896	12,611.0	-6285	67%	
2	39	305	411	Liquid Asphaltic Material (MC-70)	Gal.	33,936	14,244	8,524	0			42,460	14,244	-28,216	34%	
2	40	305	506	Riprap	Cu.Yd.	18						18	18	0	100%	
2	41	305	507	Concrete Slope and Ditch Paving (Reinforced)	Cu.Yd.	13.8	19					13.8	19	+5.2	138%	
2	42	305	515	Waterproofing (Membrane)	Sq.Yd.						1,297	1,236			-61	95%
(R-1)	2	44	305	601	Concrete Class A (Box Culvert)	Cu.Yd.	82					82	82	0	100%	
	2	43	305	601	Concrete Class A (Miscellaneous)	Cu.Yd.	20					20	20	0	100%	
	2	45	305	601	Concrete Class A (Wall)	Cu.Yd.	35					35	35	0	100%	
	2	46	305	601	Masonry Veneer	Sq.Ft.	358	432				358	432	+74	121%	
(R-1)	2	47	305	602	Reinforcing Steel	Lb.	9,527					9,527	9,527	0	100%	
	2	48	305	603	72 Inch Reinforced Concrete Pipe	Lin.Ft.	15					15	15	0	100%	
	2	49	305	603	18 Inch Corrugated Steel Pipe	Lin.Ft.	506	1024				506	1024	+518	202%	
2	50	305	603	24 Inch Corrugated Steel Pipe	Lin.Ft.	570	657					570	657	+87	115%	
2	51	305	603	36 Inch Corrugated Steel Pipe	Lin.Ft.	488						488	488	0	100%	
2	52	305	603	18 Inch Steel End Section	Each	1						1	6	+5	600%	
2	53	305	603	Place 24 Inch Corrugated Steel Pipe	Lin.Ft.	260						260	137	-123	52%	

(R-1) Revised Quantities on 5-7-79 in E.B.

SUMMARY OF APPROXIMATE QUANTITIES
 FINAL

AS CONSTRUCTED		PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	REVISED 12-22-80	VIII	9	102

INDEX	BOOK	PAGE	SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY	ROADWAY	TUNNEL	TUNNEL	BRIDGE	BRIDGE	PROJECT TOTALS	PROJECT FINAL TOTALS	DIFF.	FINAL %
								FINAL TOTALS	STR. NO. F-13-X FINAL TOTALS	STR. NO. F-13-O	STR. NO. F-13-P					
2	54	305	604	604	Inlet Type C (5 Foot)	Each	5						5	5	0	100%
2	55	305	604	604	Place Inlet	Each	3	4					3	4	+1	133%
2	56	305	604	604	Manhole Slab Base (5 Foot)	Each	±	0					±	0	-1	0%
2	57	305	604	604	Manhole Box Base (10 Foot)	Each	2	2					2	2	0	100%
2	58	305	604	604	Manhole Box Base (15 Foot)	Each	2	2					2	2	0	100%
2	59	305	604	604	Inlet Grating and Frame Special	Each			113	113			113	113	0	100%
2	60	305	604	604	Manhole Ring and Cover	Each			46	46			46	46	0	100%
2	61	305	605	605	8 Inch Perforated Corrugated Steel Pipe	Lin. Ft.	1,000	1440					1,000	1440	+440	144%
2	62	305	606	606	Guard Rail Type 3 (6-3 Post Spacing)	Lin. Ft.	6,975	7175					6,975	7175	+200	103%
2	63	305	606	606	Guard Rail Type 4 Special	Lin. Ft.	10	10					10	10	0	100%
2	64	305	606	606	Guard Rail Type 4 (Precast-Portable)	Lin. Ft.	10,620	11,480					10,620	11,480	+860	108%
2	65	305	606	606	End Anchorage Type 3D	Each	6	6					6	6	0	100%
2	66	305	606	606	End Anchorage Type 3E	Each	6	6					6	6	0	100%
2	67	305	607	607	20 Foot Gate Driveway	Each	1	1					1	1	0	100%
2	68	305	612	612	Delineator (Type I)	Each	76	169					76	169	+93	222%
2	69	305	612	612	Delineator (Type II)	Each	66	82					66	82	+16	124%
2	70	305	612	612	Delineator (Type III)	Each	3	6					3	6	+3	200%
2	71	305	612	612	Steel Guard Post	Each	291	283					291	283	-8	97%
2	72	305	613	613	3/4 Inch Electrical Conduit	Lin. Ft.	70	175					70	175	+105	250%
(R-1)	2	73	305	613	2 Inch Electrical Conduit	Lin. Ft.	1,440	1,022					1,440	1,022	-418	71%
(R-1)	2	74	305	613	Direct-Burial Cable	Lin. Ft.	4,690	2,301					4,690	2,301	-2,389	49%
2	75	305	613	613	Wiring	LS	1	1					1	1	0	100%
2	76	305	613	613	Luminaire High Pressure Sodium (47,000 Lumen)	Each	8						8			%
2	77	305	613	613	Luminaire High Pressure Sodium (Wall Type) (12,000 Lumen)	Each					1	1	2			%
2	78	305	613	613	Luminaire High Pressure Sodium (40,000 Lumen)	Each	16						16			%
2	79	305	613	613	Light Standard Steel High Mast (100 Foot)	Each	4						4			%

SUMMARY OF APPROXIMATE QUANTITIES

FINAL

AS CONSTRUCTED			
NO REVISIONS	REVISED <u>12-22-80</u>	VOID	
FEDERAL ROAD REGION NO. VIII	DIVISION COLORADO	PROJ. NO. I 70-3(84) 220	SHEET NO. 10
		TOTAL SHEETS 102	

INDEX	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		TUNNEL	BRIDGE		PROJECT TOTALS	PROJECT FINAL TOTALS	DIFF.	FINAL %
				ROADWAY	FINAL TOTALS	STR. NO. F-13-X	STR. NO. F-13-0	STR. NO. F-13-P				
2 80 305	613	Concrete Foundation Pad	Each	8	8				8	8	0	100 %
2 81 305	613	High Mast Foundation	Each	4	4				4	4	0	100 %
2 82 305	613	Lowering Device	Each	4					4			%
2 83 305	613	Portable Power Unit	Each	1	1				1	1	0	100 %
2 84 305	614	Flagging	Hour	1,200	3306				1,200	3,306	+2,106	276 %
2 85 305	614	Traffic Control Supervision	Day	75	138.75				75	138.75	+63.75	185 %
2 86 305	614	Sign Panel (Class I)	Sq. Ft.	204	201				204	201	-3	98.5 %
2 87 305	614	Sign Panel (Class II)	Sq. Ft.	465	484				465	484	+19	104 %
2 88 305	614	Sign Panel (Class III)	Sq. Ft.	819 824	850				819 824	850	+26	103 %
2 89 305	614	Timber Sign Post 4x4 Inch	Lin. Ft.	293	280				293	280	-13	96 %
2 90 305	614	Timber Sign Post 6x6 Inch	Lin. Ft.	405	405				405	405	0	100 %
2 91 305	614	Steel Sign Post (U-2)	Lin. Ft.	211	211				211	211	0	100 %
2 92 305	614	Steel Sign Post (1.75 x 1.75 Inch Tubing)	Lin. Ft.	100	100				100	100	0	100 %
2 93 305	614	Steel Sign Post (2x2 Inch Tubing)	Lin. Ft.	106	106				106	106	0	100 %
2 94 305	614	Steel Sign Post (54 x 7.7)	Lin. Ft.	24	24				24	24	0	100 %
2 95 305	614	Steel Sign Post (W6 x 15.5)	Lin. Ft.	89	89				89	89	0	100 %
2 96 305	614	Steel Sign Post (W8 x 17)	Lin. Ft.	34	34				34	34	0	100 %
2 97 305	614	Steel Sign Post (W10 x 21)	Lin. Ft.	82	116				82	116	+34	142 %
2 98 305	614	Steel Sign Post (W10 x 25)	Lin. Ft.	44	44				44	44	0	100 %
2 99 305	614	Concrete Footing (Type 2)	Each	6	6				6	6	0	100 %
2 100 305	614	Concrete Footing (Type 3)	Each	2	2				2	2	0	100 %
2 101 305	614	Concrete Footing (Type 5)	Each	4	6				4	6	+2	150 %
2 102 305	614	Concrete Footing (Type 6)	Each	2	2				2	2	0	100 %
2 103 305	614	Traffic Signal Face (12-8-8)	Each	5	5				5	5	0	100 %
2 104 305	614	Barricade (Type 3 M-A) (Temporary)	Each	8	8				8	8	0	100 %

(R-1) Added Field Lab. 5-18-79 E.B.

SUMMARY OF APPROXIMATE QUANTITIES

FINAL

AS CONSTRUCTED

NO REVISIONS REVISED VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	BENTH NO.	TOTAL BENTH
VIII	COLORADO	170-3(84)220	11	162

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY	ROADWAY FINAL TOTALS	TUNNEL STR. NO. F-13-X	TUNNEL STR. NO. F-13-Y	BRIDGE STR. NO. F-13-O	BRIDGE STR. NO. F-13-P	PROJECT TOTALS	PROJECT FINAL TOTALS	DIFF.	FINAL %
BOOK	PAGE	SHEET													
2	105	305	614	Construction Traffic Sign (Panel Size A)	Each	19	41					19	41	+22	216%
2	106	305	614	Construction Traffic Sign (Panel Size B)	Each	45	37					45	37	-8	82%
2	107	305	614	Construction Traffic Sign (Panel Size C)	Each	12	8					12	8	-4	66%
2	108	305	614	Vertical Panel	Each	78	74					78	74	+4	411%
2	109	305	614	Advance Warning Flashing or Sequencing Arrow Panel	Each	1	1					1	1	0	100%
2	110	305	614	Traffic Cone	Each	156	200					156	200	+44	128%
2	111	305	614	Traffic Signal Pole Steel (1 Mast Arm)	Each	2	2					2	2	0	100%
2	112	305	615	18 Inch Slide Headgate Special	Each	1	1					1	1	0	100%
2	113	305	615	18x12 Inch Parshall Measuring Flume	Each	1	.9					1	.9	-.1	90%
(R-1) 2	114	305	620	Field Laboratory	Each	1	1					1	1	0	100%
			626	Mobilization	LS	0.90	0.90	0.10	0.10			1	1	0	100%
2	115	305	627	Pavement Marking Paint	Gal.	184	262					184	262	+78	142%
2	116	305	627	Thermoplastic Pavement Marking	Sq.Ft.	38,182	39,513					38,182	39,513	+1,331	103%
2	117	305	627	Preformed Plastic Pavement Marking	Sq.Ft.	5,706	4,363					5,706	4,363	-1,343	76%

SUMMARY OF APPROXIMATE QUANTITIES

FINAL

AS CONSTRUCTED			
NO REVISIONS <input type="checkbox"/>	REVISED <input checked="" type="checkbox"/> 2/22/20	VOID <input type="checkbox"/>	

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70-3 (88-220)	12	102

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY	ROADWAY FINAL TOTALS	TUNNEL STR. NO. F-13-X	BRIDGE STR. NO. F-13-O	BRIDGE STR. NO. F-13-P				PROJECT TOTALS	PROJECT FINAL TOTALS	DIFF.	FINAL %
BOOK	PAGE	SHEET															
<i>FORCE ACCOUNT</i>																	
	F-3		F/A01	Erosion Control	F.A.	1	1							1	1	0	100%
	E-1		F/A02	Minor Contract Revisions	F.A.	1	1							1	1	0	100%
	E-16		F/A03	On-The-Job Trainees	Each	4	4							4	4	0	100%
<i>NON-FEDERAL AID</i>																	
			410	Plant Mixed Seal (Type B) (Haul & Asphalt)	Ton	540	632.55							540	632.55	+92.55	117%
			411	Emulsified Asphalt (CSS-1H)	Gal.	418	275							418	275	-143	66%
			403	H.B.P. - Gr. C	Ton	89.55	89.55							89.55	89.55	0	100%
			202	Remove Asphalt Mat - U.S. 6	Sq. Yd.	1,839	1,839							1839	1839	0	100%

FINAL QUANTITY SURFACING PLAN

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(84)220	13	102
AS CONSTRUCTED				
NO REVISIONS		REVISED	2-22-80	VOID

STATION TO STATION	SOURCE	THICKNESS	AGGREGATE BASE COURSE (C/C/HAUL)	TONS USED												PLANT MIXED SEAL (TYPE B)							
				HOT BITUMINOUS PAVEMENT (GRADING C) (HAUL & ASPHALT)																			
				BOTTOM LAYER				MIDDLE LAYER				TOP LAYER											
				3"	4"	3"	4"	1 1/2"	2"	3"	4"												
EASTBOUND LANES																							
400+00.00 to 403+63.30	2"	189	205.0	312	307.10							312	307.1										
403+63.30 to 419+72.66 Bk.	2"	950	1123.4	1,127	1100.43							1,127	1100.43										
26+73.35 Ah. to 35+97.82	2"	545	649.9	647	576.81							647	576.81										
Through Tunnel																							
35+97.82 to 125+57.28	4"	5,734	5825.95			6,272	6319.45							6,272	6319.45								
125+57.28 to 132+93.53 Bk.	2"	434	522.7	515	477.07							515	477.07										
131+89.84 Ah. to 141+18.00	2"	548	698.2	650	619.51							650	619.51										
141+18.00 to 171+68.28	2"	1,617	1729.25	2,227	2174.09							2,227	2174.09										
Bridge Structure No. F-13-P																							
171+68.28 to 174+46.21										145	142.0												
174+46.21 to 185+00.00	2"	559	516.54	769	701.67							769	701.67										
185+00.00 to 197+92.00												804	806.45										
197+92.00 to 215+00.00												1,196	1036.16										
WESTBOUND LANES																							
400+00.00 to 419+72.66 Bk.														572	664.60								
26+73.35 Ah. to 35+97.82														268	271.5								
125+57.28 to 132+93.53 Bk.														214	385.9								
131+89.84 Ah. to 141+18.00														269	299.1								
141+18.00 to 171+68.28														376	1000.75								
171+68.28 to 174+46.21														91	108.15								
Bridge Structure No. F-13-O																							
174+46.21 to 185+00.00														337	344.55								
185+00.00 to 197+92.00														439	444.95								
197+92.00 to 215+00.00														547	687.4								
Accel. and Decel. Lanes EB Rt.																							
409+ to 35+	2"	110	128.35	182	177.37							182	177.37										
Accel. and Decel. Lanes WB Lt.																							
414+ to 417+														32	52.45								
29+ to 33+																							
Accel. and Decel. Lanes EB Rt.																							
128+ to 133+	2"	183	199.86	302	288.38							302	288.38										
135+ to 152+																							
204+ to 214+																							
Accel. and Decel. Lanes WB Lt.																							
127+ to 132+	2"	96	109.43	159	154.5							159	154.5										
167+ to 183+																							
West Loop Road																							
2+75 to 23+00	2"	587	653.25	932	888.86							932	888.86										
East Loop Road																							
315+00 to 340+00	2"	725	962.50	1,150	1036.78							1,150	1036.78										
Sheet Sub-Totals																							
		12,277	13,324.33	8,972	8,502.52			6,272	6,319.45			6,890	6,576.83	6,272	6,319.45	145	142.0	11,072	10,345.13	6,272	6,319.45	3,745	4,391.35

UNDESIGNATED

FINAL QUANTITY SURFACING PLAN

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(64)220	14	102
AS CONSTRUCTED				
NO REVISIONS		REVISED	2-22-80	VOID

STATION TO STATION	SOURCE	THICKNESS	AGGREGATE BASE COURSE (CL EXHAUL)	TONS USED												PLANT MIXED SEAL (TYPE B)
				HOT BITUMINOUS PAVEMENT (GRADING C) (HAUL & ASPHALT)												
				BOTTOM LAYER				MIDDLE LAYER				TOP LAYER				
				3"	4"	3"	4"	1 1/2"	2"	3"	4"	1 1/2"				
Pavement Widening of Portal Areas: 31+ to 35+ EB Lt. 31+ to 35+ WB Lt. & Rt.		2"	95	149.61	156	147.09			156	147.09			156	147.09		
125+ to 131+ EB Lt. & Rt. 125+ to 131+ WB Rt. 132+ to 139+ WB Lt.		2"	162	147.53	267	179.7			267	179.7			267	170.7		
Parking Area Lt. including Access Roads 417+ to 29+		2"	620	795.92	1035	947.12			346	319.13			1035	947.12		
Parking Area Rt. including Access Road 415+ to 30+		2"	376	398.54	620	594.68							620	594.68		
Parking Area in Median 28+ to 35+		2"	297	330.81	490	462.6							490	462.6		
Parking Area Lt. 33+ to 35+		2"	221	265.17	365	343.79							365	343.79		
Parking Area Rt. 125+ to 129+		2"	189	248.17	312	297.17							312	297.17		
Parking Area Lt. 125+ to 129+		2"	180	158.22					180	158.22						
Parking Area in Median 125+ to 133+		2"	325	402.16	536	479.79							536	479.79		
Parking Area Lt. including Access Road 133+ to 139+		2"	33	38.33	54	47.89			567	541.58			54	31.23		
Parking Area Rt. 132+ to 134+		2"	148	191.43	245	225.0							245	225.0		
Cross over in Median: West Portal 418+ to 30+		2"	95	114.51	157	151.58							157	151.58		
East Portal 131+ to 135+		2"														
Connection Between Parking Areas & West Loop Road Rt. 30+ to 33+	UNDESIGNATED	2"	197	228.75	324	302.22							324	302.22		
Connection Between Parking Areas & East Loop Road Lt. 129+ to 133+		2"	115	140.45	190	180.0			126	120.72			190	188.98	14	
S.H. 6 147+00 to 165+00															▲450 301.15	
S.H. 6 165+00 to 196+79															-795 724.25	
E.B. Ent. Ramp from SH.6 569+79 to 603+59																
EB Exit Ramp to SH.6 449+00 to 467+60		2"	539	609.05	856	837.43							856	837.43		
WB Exit & Entrance Ramps: 183+ to 194+ Lt. & 170+ Rt. 172+ to 183+ Rt. & Lt.															348 493.725 300 448.30	
Widened Berm Rt. 399+00 to 417+EB		3"	648	694.58												
Widening for Guard Rail		2"	153	179.38	270	268.5			163	157.35			270	268.50		
From Structure Quantities Estimated for Irregularities		2"	259	280.55											*19 25.55	
			1671	1759.08											1022 1510.15 ▲90 231.40	
Sheet Sub-Totals			6143	6974.02	5886	5464.56			586	487.14			7463	1366.31	6520 6047.16	
Roadway Totals			12686	14472.40					41389	38786.70						
Structure No. F-13-X Totals			5734	5825.95					18816	18958.35						
Structure No. F-13-P Total									145	142.0						

Stabilization is based on the following:

	Main Line	Parking Ramps	Loop Roads
Serviceability Index	2.5	2.5	2.5
18" EDLA	521	58	38
Regional Factor	5.0	5.0	5.0 (R-1)
Subgrade R Value	50	50	50
WSN	3.82	2.53	2.34 (R-1)

Strength Coefficients:
 Hot Bituminous Pavement 0.44
 Base Course (Leveling) None

Roadway Total Federal Aid	6133	7481.28
▲ Roadway Total Non-Federal Aid	540	632.55
* Structure No. F-13-D Total	110	133.7

(R-1) Revised Asphalt Mat Tabulation ~ 5-7-79 ~ E.B.
 (R-2) Revised Quantities ~ 5-18-79 ~ E.B.

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70-3(84) 220	16	102
AS CONSTRUCTED				
NO REVISIONS	REVISED	VOID		

FINAL QUANTITY DELINEATOR TABULATION

Delin. Added To Top of
 Type III As Per FA-02 Line Item 20
 At #21.18 Ea. W/Bracket

Station to Station	Spacing	Side	Type I		Type II		Type III	
			Each		Each		Each	
Eastbound Roadway + Westbound Roadway (Same as EBL) West Approach		Lt.	29					
348+ to 361+	4° Curve	Rt.	14	7				
366+ to 381+	4° Curve	Rt.	14	9				
385+ to 398+	1° Curve	Rt.	6					
401+ to 408+	2°30' Curve	Rt.	6					
409+ to 33+	Decel. Lane	Lt. & Rt.			22			
Engr. Office Rd. Park Lot Off-Ramp 35+	Tunnel	Lt. & Rt.	13				2	
East Approach								
127+ to 145+ 125+60 E. Port. W.B.L.	Decel. Lane	Rt.			22		2	
446+ to 467+	Ramp	Lt. & Rt.	28 27		4			
153+ to 183+ 166+ to 173+	3° Curve Accel. Lane	Rt. Lt.	16 15		6			
171+ 171+25	Bridge	Rt. Lt.					1 1	
184+ to 194+ Decel. Lane 7+ to 15+ U.S. 6+ 168+ to 172+	Decel. Lane Bridge Inter. Traffic Island	Lt. Lt.	37		16			
186+	Tangent	Rt.	1					
190+ to 201+	0°45' Curve	Rt.	5					
203+ to 213+	Accel. Lane	Rt.			12			
Total			76		66		3	
			169		82		6	

WETTING TABULATION

INDEX			APPLICATION	M. GAL.
Book	Page	Sheet		
			Surfacing ~ Aggregate Base Course (Class 6)	276
			Reconditioning	743
			Compaction ~ List of Structures	96
Total for Pay Quantity				1,115

REMOVAL OF STRUCTURES AND OBSTRUCTIONS

For information only, to be paid for on a lump sum basis.

LOCATION AND DESCRIPTION
31+40~Remove 20' of 24" Riser, Rt. 34+10 WB Lane~Remove Pedestrian Overpass, Includes Stairs, Guard Rail and Foundations. 125+WB~Remove approx. 1.5 Cu. Yds Concrete Curb
126+ to 131+ Median~Remove 2 Manholes and 2 Pipes
126+ to 132+ Rt. of E.B. Lane~Remove 5 sheet metal buildings with Concrete foundations.
132+70~Remove 6' of 18" CSP from wall of Inlet, Lt.
135+ W.B. Lane~Remove Pedestrian Overpass Includes Stairs, Guard Rail and Foundation
138+00~Remove 4' of 36" Riser, Lt.
173± W.B. Lane~Remove 2 Wall Type Luminaires Under Bridge
319+ Loop Rd~Remove Air Curtain Destructor, Rt.
(R-2) 140+00~Remove headwall and portions of wings

SUMMARY OF EARTHWORK QUANTITIES (R-2)

INDEX			
Book	Page	Sheet	
			UNCLASSIFIED EXCAVATION (HAUL) CU. YD.
			Structure Quantities as Excavation
			9,236
			Total For Pay Quantity -----
			9,236
			EARTHWORK QUANTITIES BALANCE CU. YD.
			[For Information Only]
			Excavation
			Unclassified (from List of Structures)
			9,236
			Structure Exc. (from List of Structures)
			3,119
			Total -----
			12,355
			EMBANKMENT NET CU. YD.
			From List of Structures
			2,397
			Total -----
			2,397
			EMBANKMENT x FACTOR (1.00) CU. YD.
			From List of Structures
			2,397
			* Excess Excavation
			9,958
			Total -----
			12,355

* Excess Excav. to be disposed of as follows:
 Approx. 4,949 Cu. Yd. Stockpiled 500' Lt. of Sta. 35+
 Approx. 3,500 Cu. Yd. at Sta. 137± Lt. Approx. 1,509 Cu. Yd. within Project limits as directed by the Engineer.

REMOVAL OF ASPHALT MAT

WEST PORTAL		SQ. YDS. ASPHALT REMOVAL	EAST PORTAL		SQ. YDS. ASPHALT REMOVAL
Inside edge of WB Lanes as follows:					
403+63	to	404+00	57.5	129+ to 131+, Lt. Ramp Relocation	266
404+00	to	405+00	161.1	132+, Lt. Parking Exit Relocation	133
405+00	to	406+00	168	129+, Lt. For High Mast Light Std. (See Sh. 51)	100
406+00	to	407+00	166.6	134+, Lt. Parking Area Repair	625
407+00	to	408+00	157		
408+00	to	409+00	152.8		
409+00	to	410+00	161.1		
410+00	to	411+00	159.2		
411+00	to	412+00	159.1		
412+00	to	413+00	161.6		
413+00	to	414+00	155.3		
414+00	to	415+00	174.7		
415+00	to	416+00	189.7		
416+00	to	417+00	242.8		
417+00	to	418+00	268		
418+00	to	419+00	270.8		
419+00	to	419+72.6 BK	196.2		
26+73.4 AH	to	27+00	72.4		
27+00	to	28+00	64.22		
28+00	to	29+00	502.2		
29+00	to	30+00	280.3		
30+00	to	31+00	264		
SubTotal			4,762.6		
Present Overheight Vehicle Parking Area from 31+ to 34+, Rt.			1,640		
Total			6,603	Total	1,124
Project Total					7,727

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I70-3(84)220	17	102
AS CONSTRUCTED				
NO REVISIONS		REVISED	2-22-80	VOID

FINAL QUANTITY GUARD RAIL TABULATION

Station to Station	Location	Side	Guard Rail Type 4 (Precast Portable)		Guard Rail Type 4 Special		Guard Rail Type 3 (6-3 Post Spacing)		End Anchorage		Steel Guard Post	Remove Guard Rail		Reset Guard Rail		Δ Connection to Bridge		
			Lin. Ft.		Lin. Ft.		Lin. Ft.		Type 3E Each	Type 3D Each		Each	Type 3 Lin. Ft.	Type 5 Lin. Ft.	Type 4 Lin. Ft.		Each	
<u>West Approach</u>																		
351+31.60 to 399+31.20 Bk	Median		4,800	5614														
398+50.90 Ah. to 403+63.30	Median		-5+2	356														
26+ to 35+	EB, WB Median	Lt. & Rt.									121							
32+ to 35+	WB Roadway	Lt. & Rt.											390					
35+	EB Roadway	Lt. & Rt.	124															
<u>West Loop Road</u>																		
12+	Rd. Approach	Rt.									2							
<u>East Approach</u>																		
125+	WB Roadway	Lt. & Rt.	124	100														
125+ to 134+	EB, WB Median	Lt. & Rt.									164	156						
125+ to 129+	WB Roadway	Lt. & Rt.											610					
131+ to 143+00.00	EB Roadway	Rt.					1300		1	1			450	480				
136+ to 138+ ¹⁴⁶⁺¹⁸	WB Roadway	Lt.													*72	500		
141+18.00 to 144+36.00	Median		760	} 3034	10													
141+30.00 to 148+90.00	Median																	
148+90.00 to 149+00.00	Median																	
149+00.00 to 169+60.00	Median		2,060															
169+60.00 to 170+30.00	Median						1300		1							*70		
158+50.00 to 171+50.00	EB Roadway	Rt.																
174+25.00 to 195+00.00	EB Roadway	Rt.					2075			1						*70		
174+66.00 to 175+36.00	Median															*70		
175+36.00 to 197+76.00	Median		2,240	2252												*70		
197+76.00 to 197+88.00	Median															*70		
<u>Ramp to S.H. 6</u>																		
449+50.00 to 459+75.00	Ramp	Rt.					1,025	1225	1	1								
<u>East Loop Road</u>																		
317+50.00 to 324+00.00	E. Loop Road	Lt.					650		1	1								
326+00 to 327+50	E. Loop Road	Lt.					150		1	1								
328+50.00 to 333+25.00	E. Loop Road	Lt.					475		1	1								
319+	Rd. Approach	Rt.									2							
327+	Rd. Approach	Rt.									2							
Totals			10,620	11,480	10		6,975	7175	6	6	291	283	450	480	1,000	164	500	2

Δ For information only (See Detail) * See note on plans

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(B4)230	18	102
AS CONSTRUCTED				
NO REVISIONS	2-22-90	REVISED		VOID

FINAL MANHOLE RING & COVER AND INLET GRATING & FRAME SPECIAL TABULATION

Station	Side	Manhole Ring & Cover		Inlet Grating & Frame (Special) ▼	
		Each		Each	
36+44.99	Rt.	1		1	
36+71.35	Rt.				1
37+15.00	Lt.	1		1	
38+22.10	Rt.				1
39+72.85	Rt.	1			2
39+72.85	Lt & Rt.			2	
41+23.60	Lt. & Rt.			2	
42+66.51	Lt.	1			
42+74.35	Rt.	1			
42+74.35	Lt. & Rt.			2	
44+25.10	Lt. & Rt.			2	
45+75.85	Rt.	1			
45+75.85	Lt. & Rt.			2	
47+26.60	Lt. & Rt.			2	
48+69.51	Lt.	1			
48+77.35	Rt.	1			
48+77.35	Lt & Rt.			2	
50+28.10	Lt & Rt.			2	
51+78.85	Rt.	1			
51+78.85	Lt & Rt.			2	
53+29.60	Lt & Rt.			2	
54+72.51	Lt.	1			
54+80.35	Rt.	1			
54+80.35	Lt & Rt.			2	
56+31.10	Lt & Rt.			2	
57+81.85	Rt.	1			
57+81.85	Lt. & Rt.			2	
59+32.60	Lt & Rt.			2	
60+75.51	Lt.	1			
60+83.35	Rt.	1			
60+83.35	Lt & Rt.			2	
62+34.10	Lt & Rt.			2	
63+84.85	Rt.	1			
63+84.85	Lt & Rt.			2	
65+35.60	Lt & Rt.			2	
66+78.51	Lt.	1			
66+86.35	Rt.	1			
66+86.35	Lt & Rt.			2	
68+37.10	Lt & Rt.			2	
69+87.85	Rt.	1			
69+87.85	Lt & Rt.			2	
71+38.60	Lt & Rt.			2	
72+81.51	Lt.	1			
72+89.35	Rt.	1			
72+89.35	Lt & Rt.			2	
74+40.10	Lt & Rt.			2	
75+90.85	Rt.	1			
75+90.85	Lt & Rt.			2	
77+41.60	Lt & Rt.			2	
78+84.51	Lt.	1			
78+92.35	Rt.	1			
78+92.35	Lt & Rt.			2	

Station	Side	Manhole Ring & Cover		Inlet Grating & Frame (Special) ▼	
		Each		Each	
80+43.10	Lt & Rt.			2	
81+93.85	Rt.	1			
81+93.85	Lt & Rt.			2	
83+44.60	Lt & Rt.			2	
84+87.51	Lt.	1			
84+95.35	Rt.	1			
84+95.35	Lt & Rt.			2	
86+46.10	Lt & Rt.			2	
87+96.85	Rt.	1			
87+96.85	Lt & Rt.			2	
89+47.60	Lt. & Rt.			2	
90+90.51	Lt.	1			
90+98.35	Rt.	1			
90+98.35	Lt. & Rt.			2	
92+49.10	Lt. & Rt.			2	
93+99.85	Rt.	1			
93+99.85	Lt. & Rt.			2	
95+50.60	Lt. & Rt.			2	
96+93.51	Lt.	1			
97+01.35	Rt.	1			
97+01.35	Lt & Rt.			2	
98+52.10	Lt. & Rt.			2	
100+02.85	Rt.	1			
100+02.85	Lt. & Rt.			2	
101+53.60	Lt & Rt.			2	
102+96.51	Lt.	1			
103+04.35	Rt.	1			
103+04.35	Lt. & Rt.			2	
104+55.10	Lt & Rt.			2	
106+05.85	Rt.	1			
106+05.85	Lt. & Rt.			2	
107+56.60	Lt & Rt.			2	
108+99.51	Lt.	1			
109+07.35	Rt.	1			
109+07.35	Lt. & Rt.			2	
110+58.10	Lt. & Rt.			2	
112+08.85	Rt.	1			
112+08.85	Lt. & Rt.			2	
113+59.60	Lt. & Rt.			2	
115+02.51	Lt.	1			
115+10.35	Rt.	1			
115+10.35	Lt. & Rt.			2	
116+61.10	Lt. & Rt.			2	
118+11.85	Rt.	1			
118+11.85	Lt. & Rt.			2	
119+62.60	Lt & Rt.			2	
121+05.51	Lt.	1			
121+13.35	Rt.	1			
121+13.35	Lt.			1	
122+64.10	Lt.			1	
124+14.85	Lt.			1	
124+39.40	Lt.	1			
125+17.36	Rt.	1			
TOTAL		46		113	

▼ Note: Each Inlet Grating and Frame (Special) shall include 2 Grates and 1 Frame as shown on detail. Casting pattern for Inlet grates will be furnished to the Contractor by the Division at no cost to the project. Contractor shall return the casting pattern to the Division.

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70-3(64) 220	19	102
AS CONSTRUCTED				
NO REVISIONS	REVISED	VOID		
	11-22-80			

FINAL TABULATION OF TOPSOIL AND SOIL RETENTION BLANKET (JUTE)

WEST APPROACH				EAST APPROACH			
LOCATION	4" TOPSOIL Cu.Yd.	JUTE Sq.Yd.	TOTAL ACRES	LOCATION	4" TOPSOIL Cu.Yd.	JUTE Sq.Yd.	TOTAL ACRES
Main Line 404+00 to 409+00 Rt. 411+00 to 417+00 Rt. Median 403+63 to 417+12 417+12 to 27+00	306 806 -449-556 -102	12,556	2.59 -0.8 } 1.0 -0.2 }	Between WB Lanes and Ramp to Parking Area, Lt. 129+ to 131+	-116-222		-0.2-0.4
Between EB Lanes and Parking Area, Rt. 416+00 to 419+72.7 409 to 416 Rt.	-200-361		-0.4 0.67	Between WB Lanes and Parking Area, Lt. 132+ to 139+ 140+ Lt. at C.B.C.	-472-643 78		-0.9 1.2 0.1
Between WB Lanes and Loop Rd. 28+ to 33+, Lt.	306		0.6	Median 134+00 to 141+18	-212-322		-0.4 0.6
Between EB Lanes and Loop Rd. 31+ to 33+	225		0.4	Loop Road 316+ to 334+, Rt. 324+ to 326+, Lt. 326+ to 332+50, Lt. 33+50 to 335+50 Rt.	-1,100-1188 -122-173 318 196	-10,000-13,734 -2,890-2,236	-2.1 2.8 0.2 -0.6-0.5
Parking Area, Rt. 116+60 to 126+23.2, Rt. 116+00 to 119+00 Rt.	1,013 369	-9,241-8023	-1.9 1.65 0.69	Side Slope, Rt. 130+ to 138+	-970-1100	-8,890-7946	-1.8 1.6
Loop Road 2+10.3 to 7+00, Rt. 11+00 to 23+00, Rt. 2+60 to 13+90, Lt. 16+40 to 21+40, Lt. 12+ to 14+, Rt. E. Side of Straight Cr. Rt. of Loop Rd. Storage Area North of Plaza Area	367 -733-880 1,105 183 734 196	-3,333 -6,667-2,295 -10,044-2,822	0.7 -1.4 0.47 2.1 0.58	Side Slope, Lt. 150+ to 160+	1,222	-11,412-11,820	2.3 2.4
Estimated for Irregularities	-1,291-543		2.4	Between EB Lanes and SH 6, Rt. 150+ to 171+	-2,818-3052	-20,068-15,126	-5.2 3.1
Total West Approach	7,747-9076	-29,255-33,589	12.3 13.8	Estimated for Irregularities	-1,472-0		
				Total East Approach	-8,830-8514	-52,960-50,862	13.7-12.7

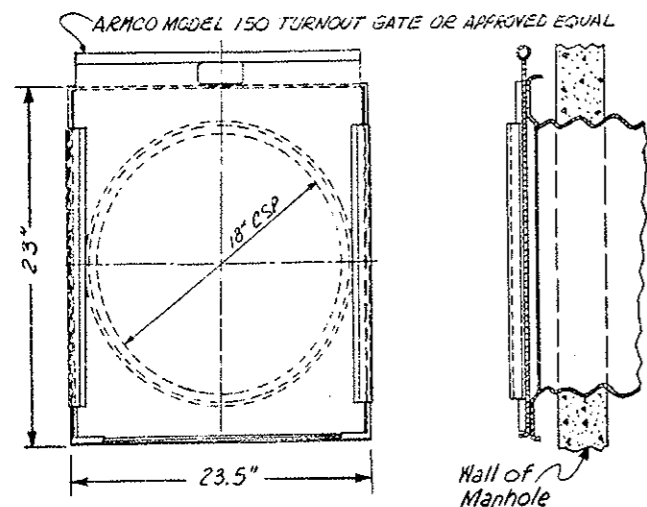
SEEDING				
COMMON NAME	BOTANICAL NAME	PERCENT PURITY	PERCENT GERMINATION	RATE PLS./ACRE
Hard Fescue	Festuca duriuscula	95.0	84	14
Pubescent Wheatgrass	Agropyron trichophorum	85	79	8
Smooth Brome	Bromus inermis	98.4	89	8
Western Wheatgrass	Agropyron smithii	86.1	90	6
Alsike Clover	Trifolium hybridum	99.3	80	2
Timothy	Phleum	99.8	90	2
Total PLS./Acre Seeding Native				40
MULCHING MATERIAL	Native Hay or Straw 2 Tons/Acre			
COMMERCIAL FERTILIZER	AVAILABLE N %	AVAILABLE P lbs.	AVAILABLE K %	TOTAL LBS./ACRE
Diammonium Phosphate 18-46-0	18	54	46	138

ESTIMATED QUANTITIES OF THE ITEMS REQUIRED		
ITEM	UNIT	TOTAL
Topsoil	Cu.Yd.	-16,577 17,590
Seeding (Native)	Lb.	-1,040 1284.2
Fertilizer	Lb.	-7800 9084
Mulching	Ton	-52 52.17
Soil Retention Blanket (Jute)	Sq.Yd.	-82,215-84,451

FINAL PLAN OF EAST PORTAL AREA DRAIN SYSTEM

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(24)230	20	102
AS CONSTRUCTED				
NO REVISIONS		REVISED 12-22-80	VOID	

DETAIL OF 18" SLIDE HEADGATE SPECIAL
 (STA. 124+39.4)



Summary of East Portal Area Drain system (Quantities carried to List of Structures)

- Structure Excav (Class 1) 1789
- Structure Backfill 422 Cu. Yd. 439
- Embankment 1234 Cu. Yd.
- Removal of Structure 4 Each
- Manhole Box Base (10 Ft.) 1 Each
- Manhole Box Base (15 Ft.) 2 Each
- 36 Inch CSP 488 Lin. Ft.
- 72 Inch RCP 15 Lin. Ft.
- Plug Culvert 1 Each
- * 18x12 Inch Parshall Measuring Flume 1 Each
- Concrete Class A (Wall) 7 Cu. Yd.
- Reinforcing Steel 300 lbs
- 18 Inch CSP 282-270 Lin. Ft.
- 18 Inch Slide Headgate Special 1 Each

Carried to Removal of Structures and Obstructions Tab.

* Cost of Class DT Concrete and Flow Measuring and recording equipment to be included in bid item for Parshall Measuring Flume. It is estimated that 4 Cu. Yds. of Class DT Concrete will be required.

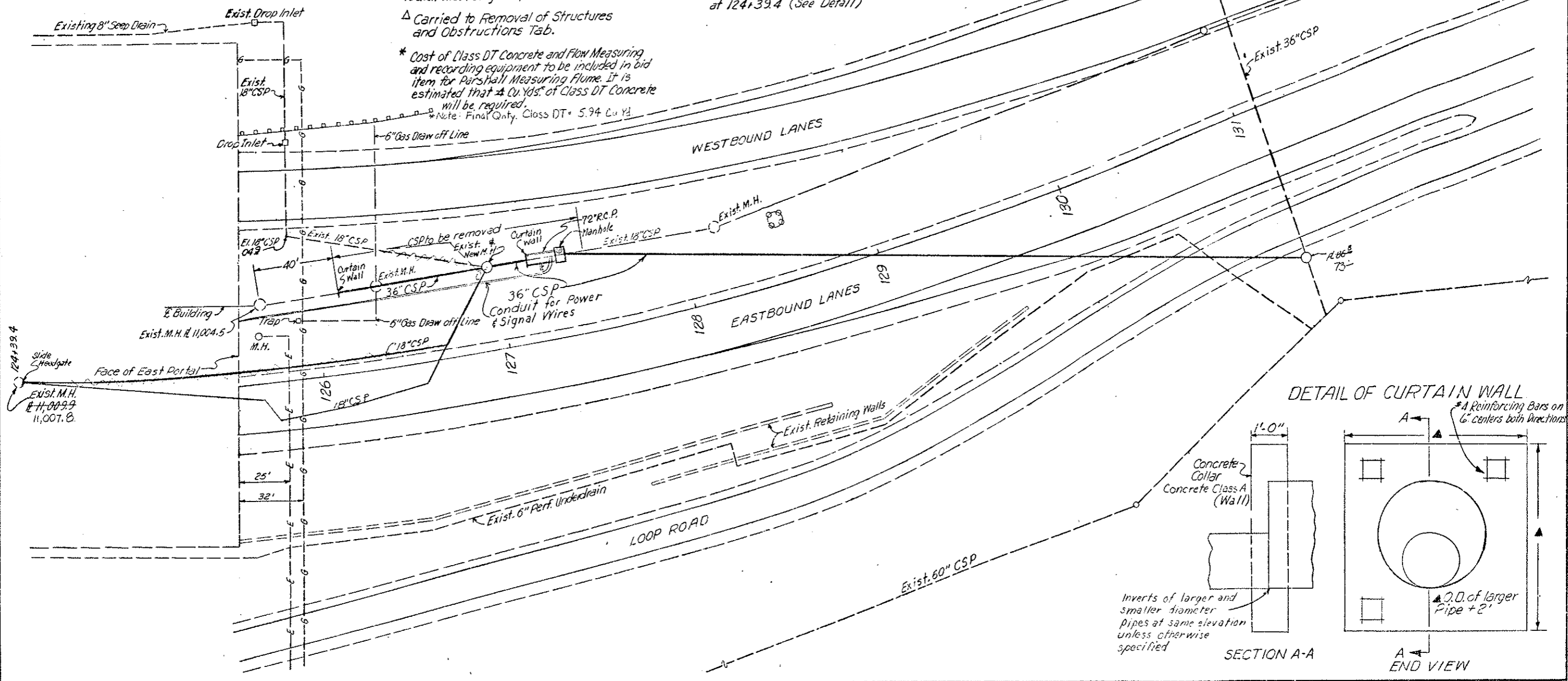
* Note: Final Qty. Class DT = 5.94 Cu. Yd.

126+ to 127+ Remove Manholes and 130' of 18" CSP Lt. and Plug at approx. 127+45. Req'd. Manhole Box Base (H=10'-0") Lt. at approx. 126+95 with 36"x 78" CSP to connect to 18" CSP Lt. of 126+ with Curtain Wall and 36"x 20" CSP to connect to proposed 72"x 15" RCP Lt. of 127+ with Curtain Wall (Detail this Sheet & Profile Sheet)

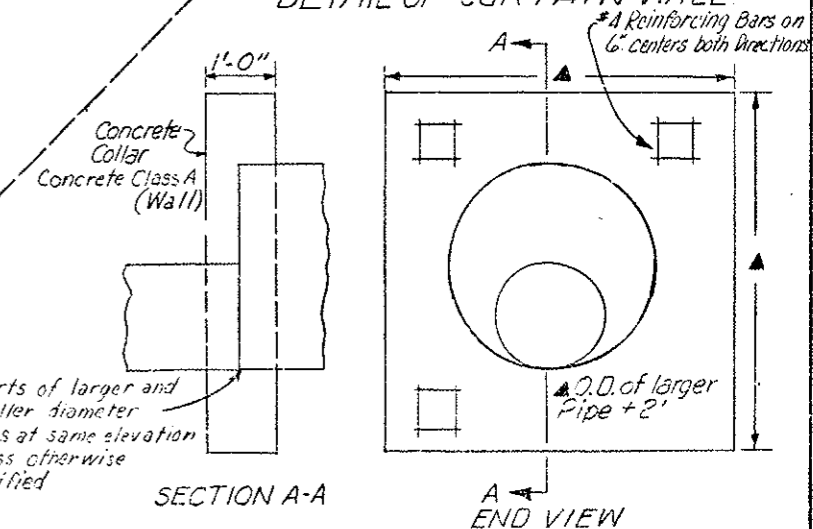
127+ Req'd. 72"x 15" RCP Lt. with Manhole Box Base (H=11') and Parshall Measuring Flume (Detail on Profile Sheet)

127+ to 131+ Remove 4' Section from 36" CSP approx. 80' Ft. of 131+ Req'd. Manhole Box Base (H=13'-0") in place of removed section with 36"x 390" CSP to connect to proposed 72" RCP at 127+ Lt. (Detail on Profile Sheet)

124+39.4 to 126+95 Req'd. 18"x 270" C.S.P. (45° Elbow) connecting Manholes, 18 Inch Slide Headgate Special in Existing Manhole at 124+39.4 (See Detail)



DETAIL OF CURTAIN WALL



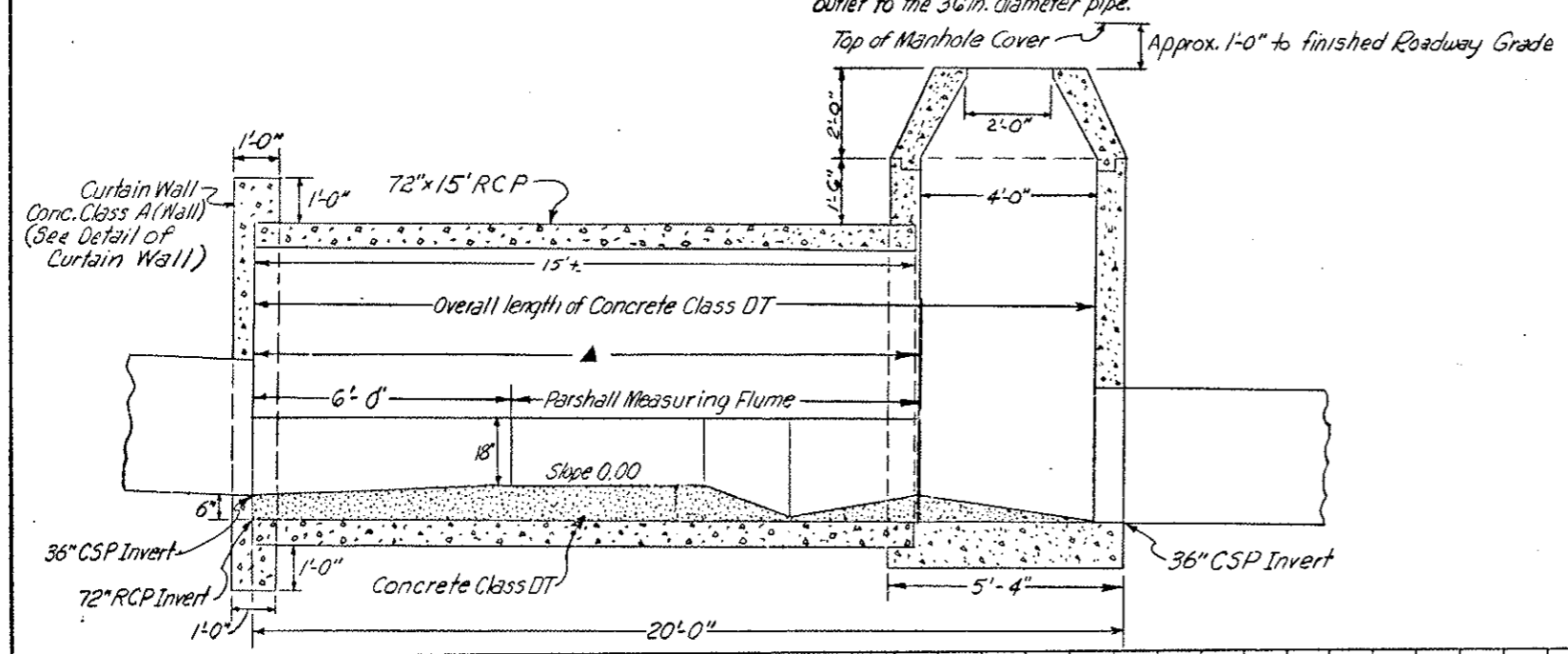
PARSHALL FLUME INSTALLATION DETAIL SECTION A-A

SCALE OF DETAILS 1"=2'

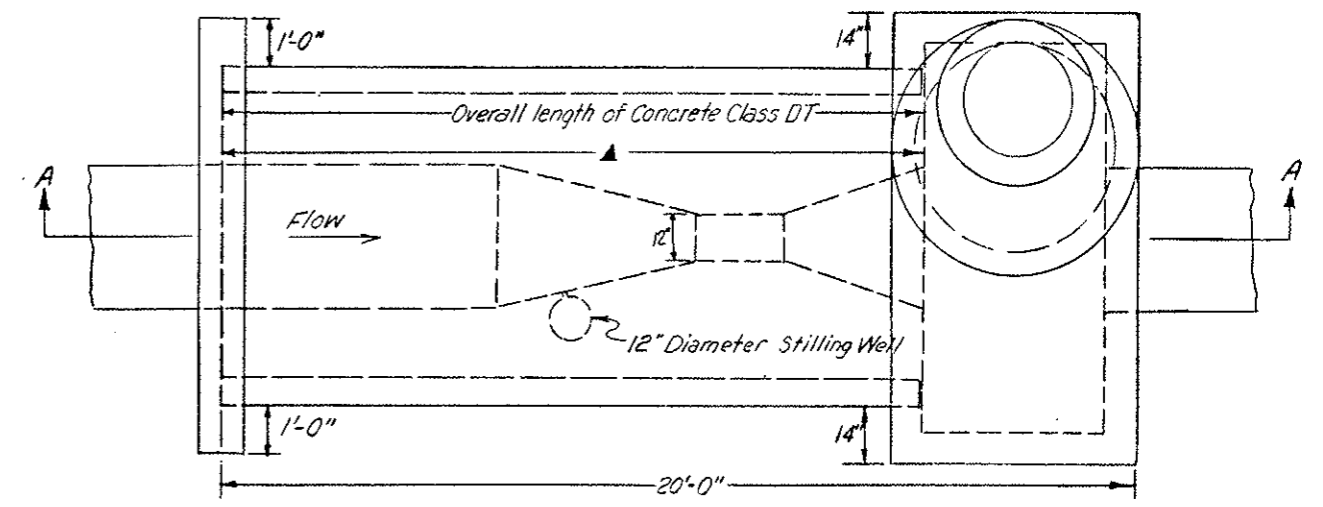
PROFILE AND DETAILS EAST PORTAL AREA DRAIN SYSTEM

▲ Concrete Class DT to be same Height as Flume on both sides for this length otherwise as shown

Manhole shall be constructed per Std M-604-E, except Manhole Ring and Cover shall be Gas, Water and Steam tight (Neenah R-1757-G or Approved Equal). Floor of Manhole shall be adjusted to provide a smooth flow path from the flume outlet to the 36 in. diameter pipe.

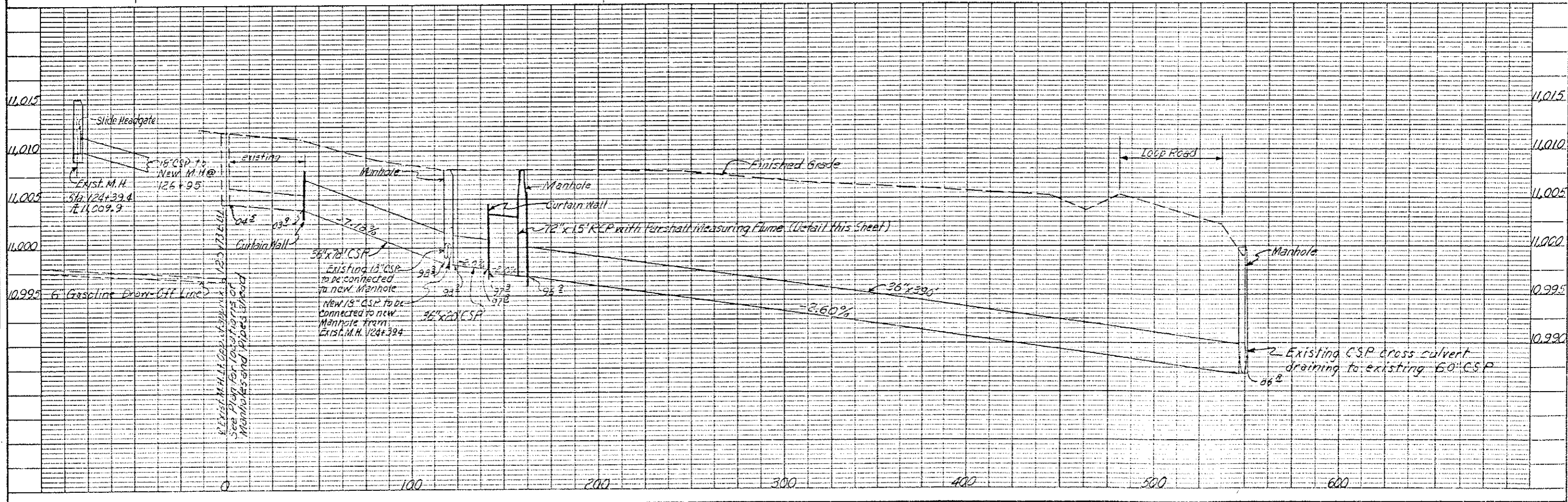


PARSHALL FLUME INSTALLATION DETAIL PLAN VIEW



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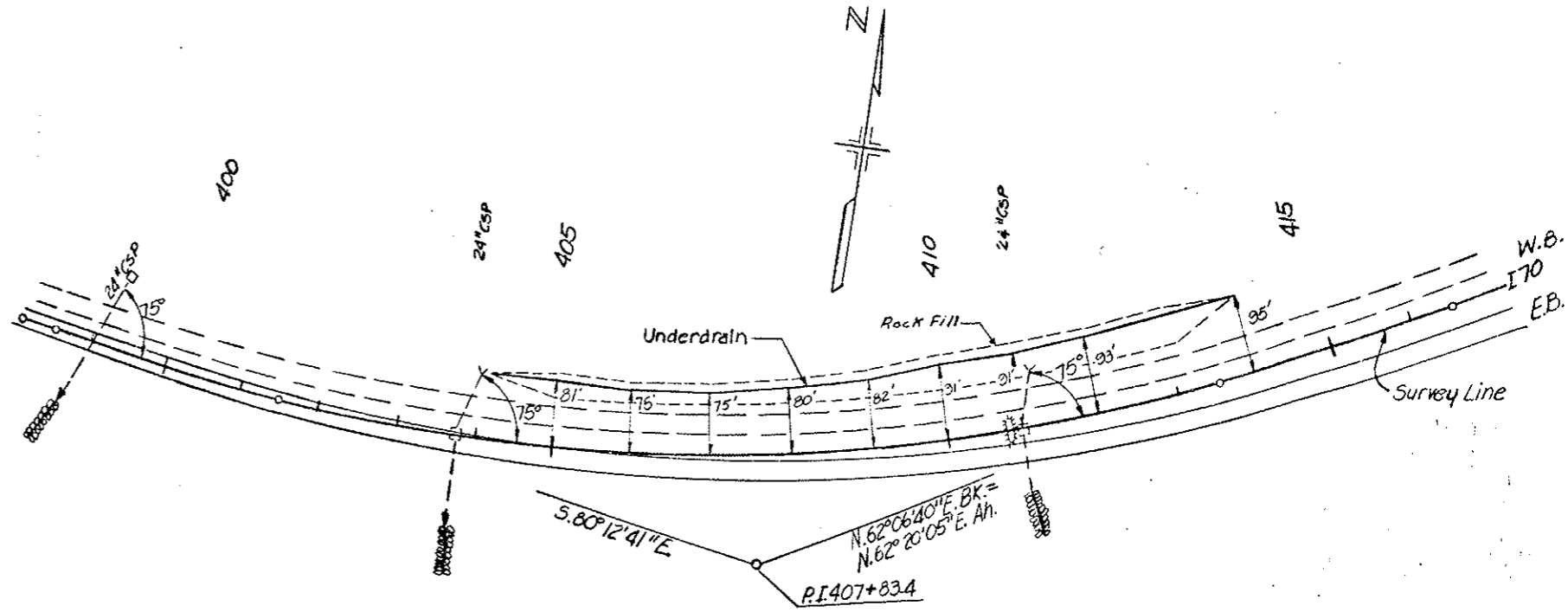
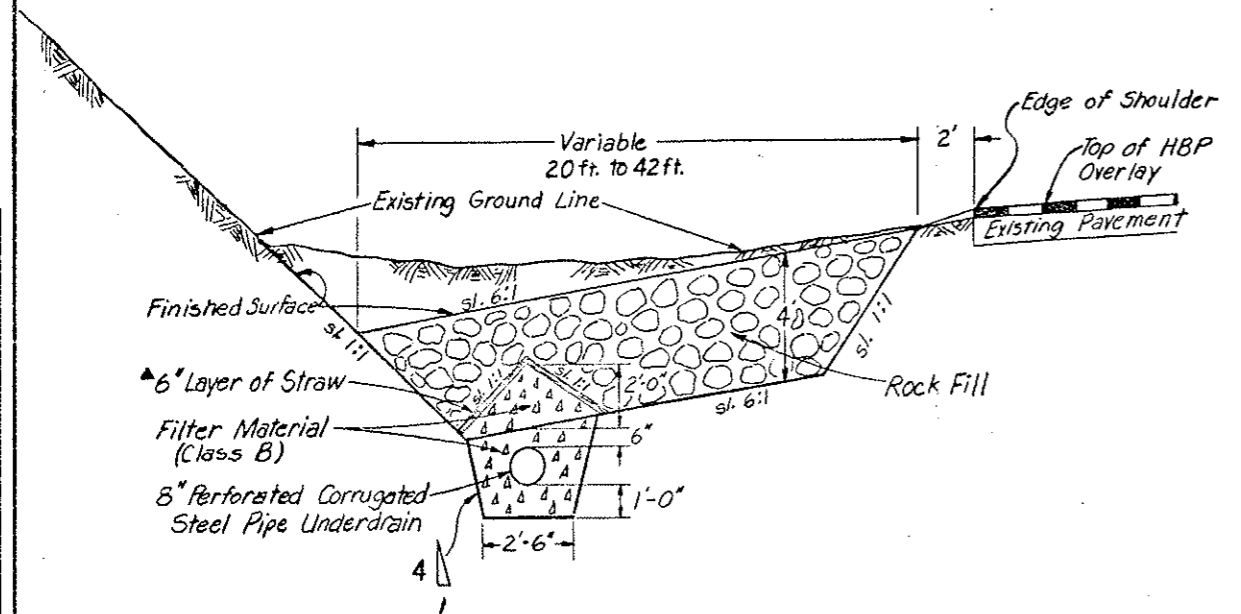
DETAILS OF UNDERDRAIN PLACEMENT

Sta 404+ to 414+ Lt.

AS CONSTRUCTED
NO REVISIONS REVISED 2-22-82 VOID

FEDERAL ROAD REGION NO. VIII	DIVISION COLORADO	PROJ. NO. I70-3(8A)220	SHEET NO. 22	TOTAL SHEETS 102
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TYPICAL SECTION



SUMMARY OF UNDERDRAIN PLACEMENT

QUANTITIES CARRIED TO LIST OF STRUCTURES

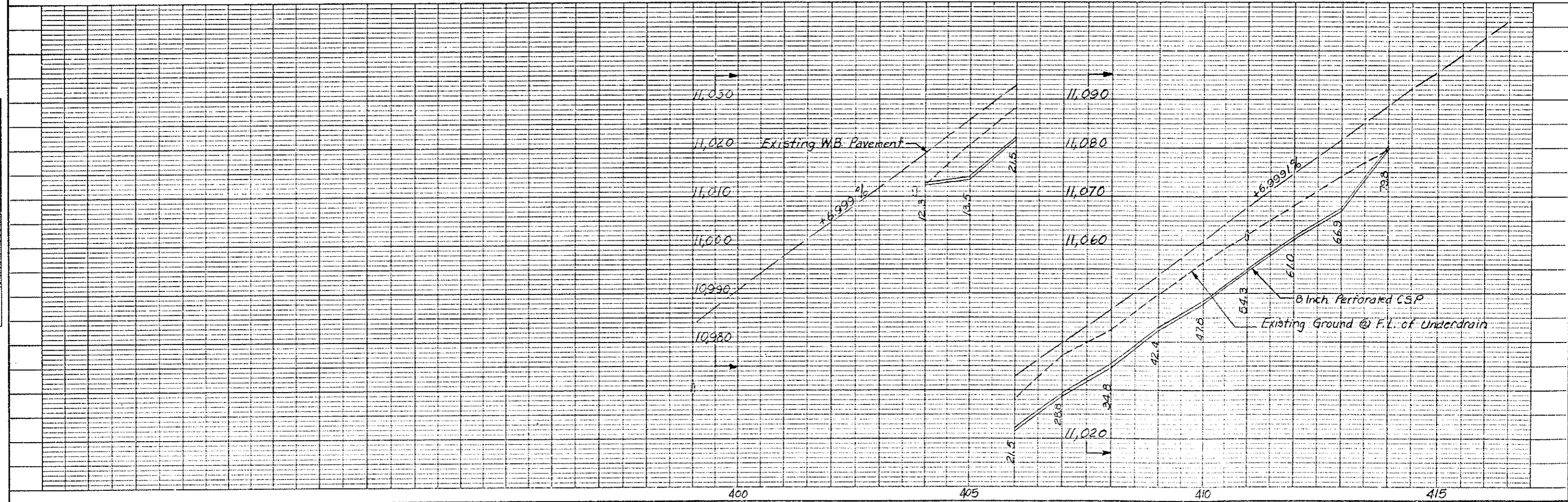
Item	Quantity	Unit
Unclassified Excavation (Haul)	3369	Cu.Yd.
Rock Fill (Haul)	3840	Cu.Yd.
Structure Excavation	232	Cu.Yd.
Filter Material (Class B)	361	Cu.Yd.
8 Inch Perforated Corrugated Steel Pipe	1,000	Lin.Ft.

• Material to be disposed of at Stockpile 500 ft. left of Sta. 35+
 • Material to be obtained from Stockpile 500 ft. left of Sta. 35+

▲ Cost of Straw to be included in Filter Material (Class B)

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FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(84)220	23	102

AS CONSTRUCTED
 NO REVISIONS REVISED 15-02-80 VOID

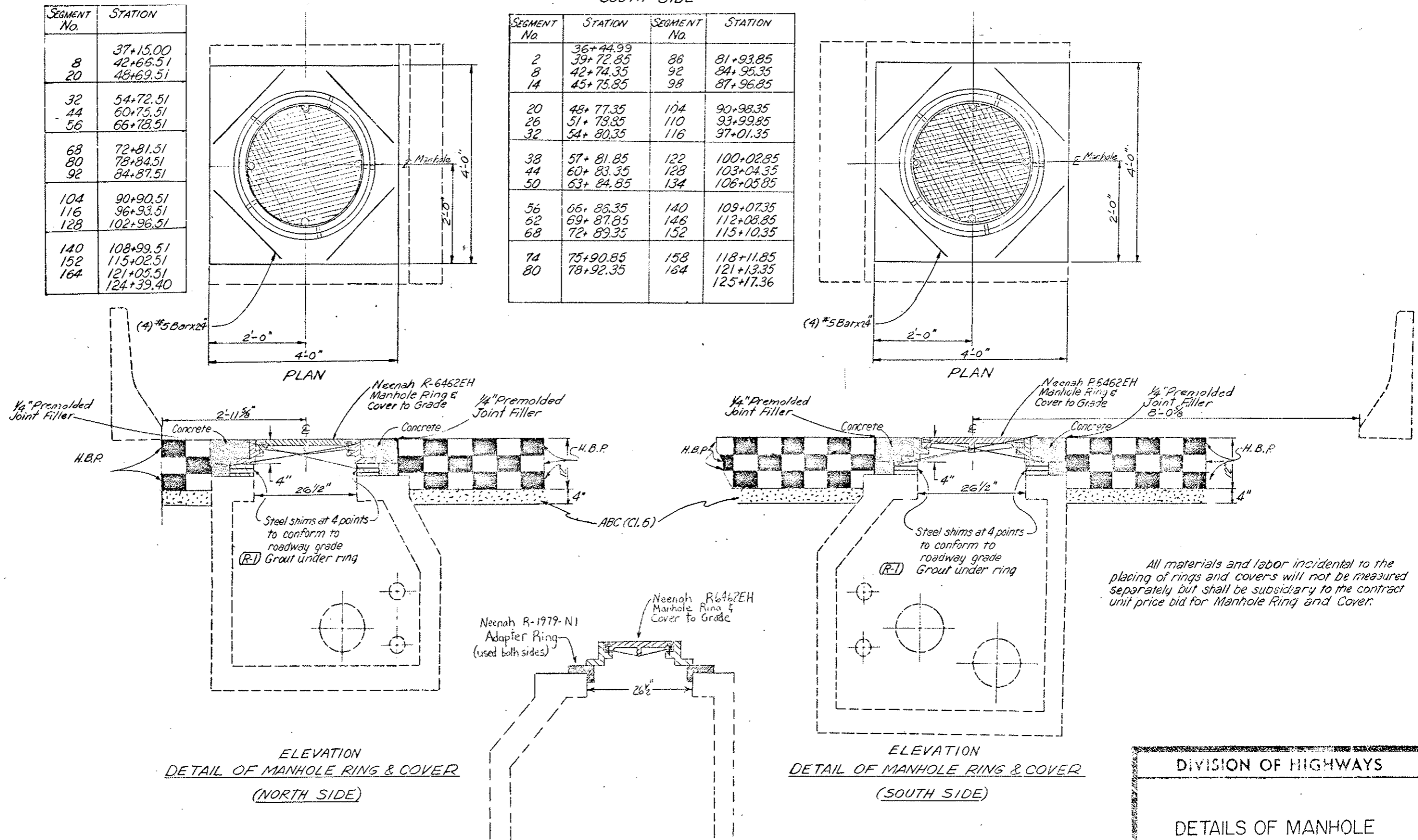
(R-1) Added Note 5-7-79 in E.B.

NORTH SIDE

SEGMENT No.	STATION
8	37+15.00
20	42+66.51
32	54+72.51
44	60+75.51
56	66+78.51
68	72+81.51
80	78+84.51
92	84+87.51
104	90+90.51
116	96+93.51
128	102+96.51
140	108+99.51
152	115+02.51
164	121+05.51
	124+39.40

SOUTH SIDE

SEGMENT No.	STATION	SEGMENT No.	STATION
2	36+44.99	86	81+93.85
8	42+74.35	92	84+95.35
14	45+75.85	98	87+96.85
20	48+77.35	104	90+98.35
26	51+78.85	110	93+99.85
32	54+80.35	116	97+01.35
38	57+81.85	122	100+02.85
44	60+83.35	128	103+04.35
50	63+84.85	134	106+05.85
56	66+86.35	140	109+07.35
62	69+87.85	146	112+08.85
68	72+89.35	152	115+10.35
74	75+90.85	158	118+11.85
80	78+92.35	164	121+13.35
			125+17.36



ELEVATION
 DETAIL OF MANHOLE RING & COVER
 (NORTH SIDE)

ELEVATION
 DETAIL OF MANHOLE RING & COVER
 (SOUTH SIDE)

DIVISION OF HIGHWAYS

DETAILS OF MANHOLE RING AND COVER

Sheet No.	Structure
Drawing Number	of Drawings

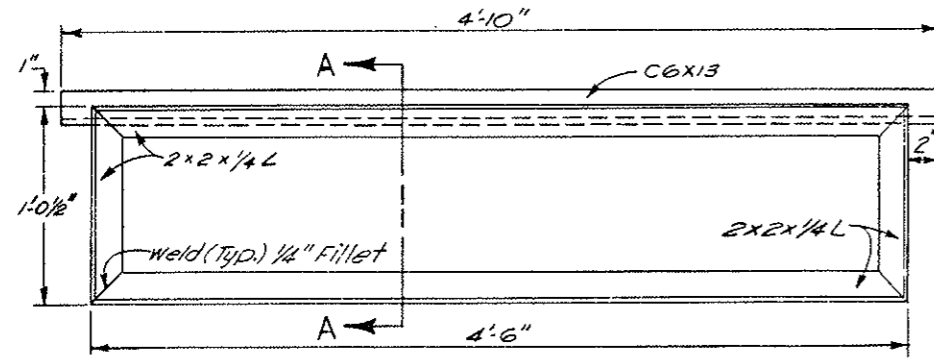
(R-1) Added Note 5-7-79 E.B.

(R-2) Added Note 5-18-79 E.B.

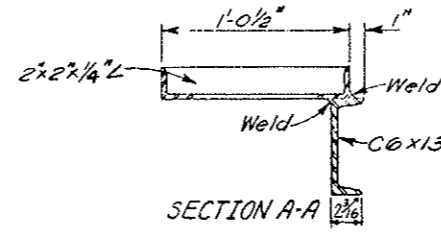
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(34)230	24	102

AS CONSTRUCTED

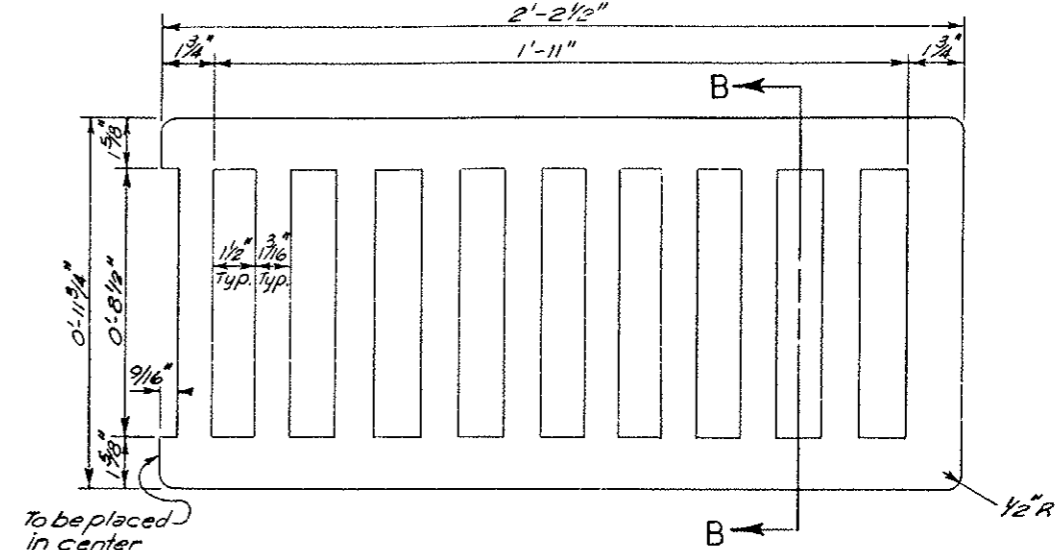
NO REVISIONS	12-22-80	REVISED		VOTD
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PLAN
Inlet Frame

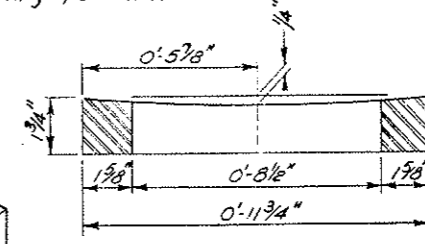


SECTION A-A



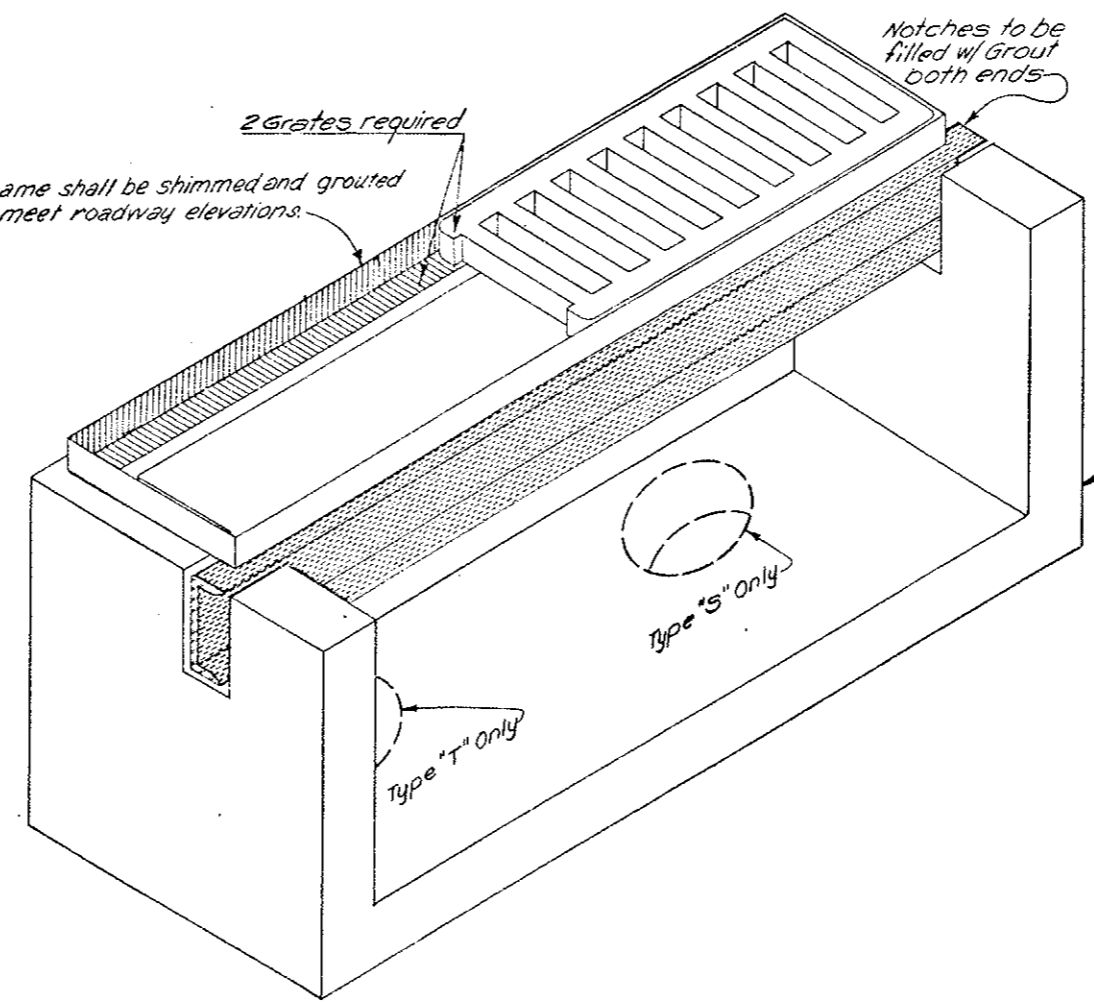
PLAN
Inlet Grate
2 Req'd per Inlet

To be cast from Ductile Iron
 Casting Pattern to be furnished by the
 Division and shall be returned after
 casting operations.

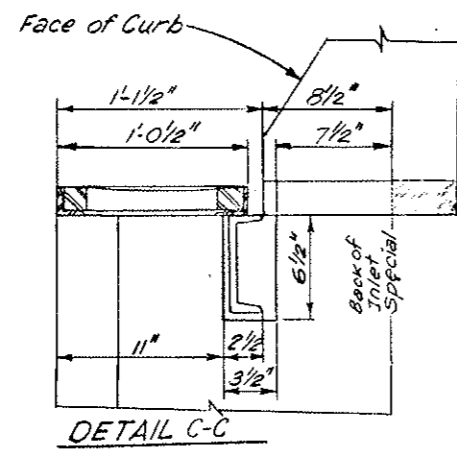


SECTION B-B

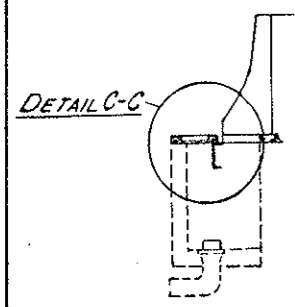
(R-1) Frame shall be shimmed and grouted to meet roadway elevations.



(R-2) Note: Steel Frame to be Galvanized



FRAME IN RELATION TO INLET



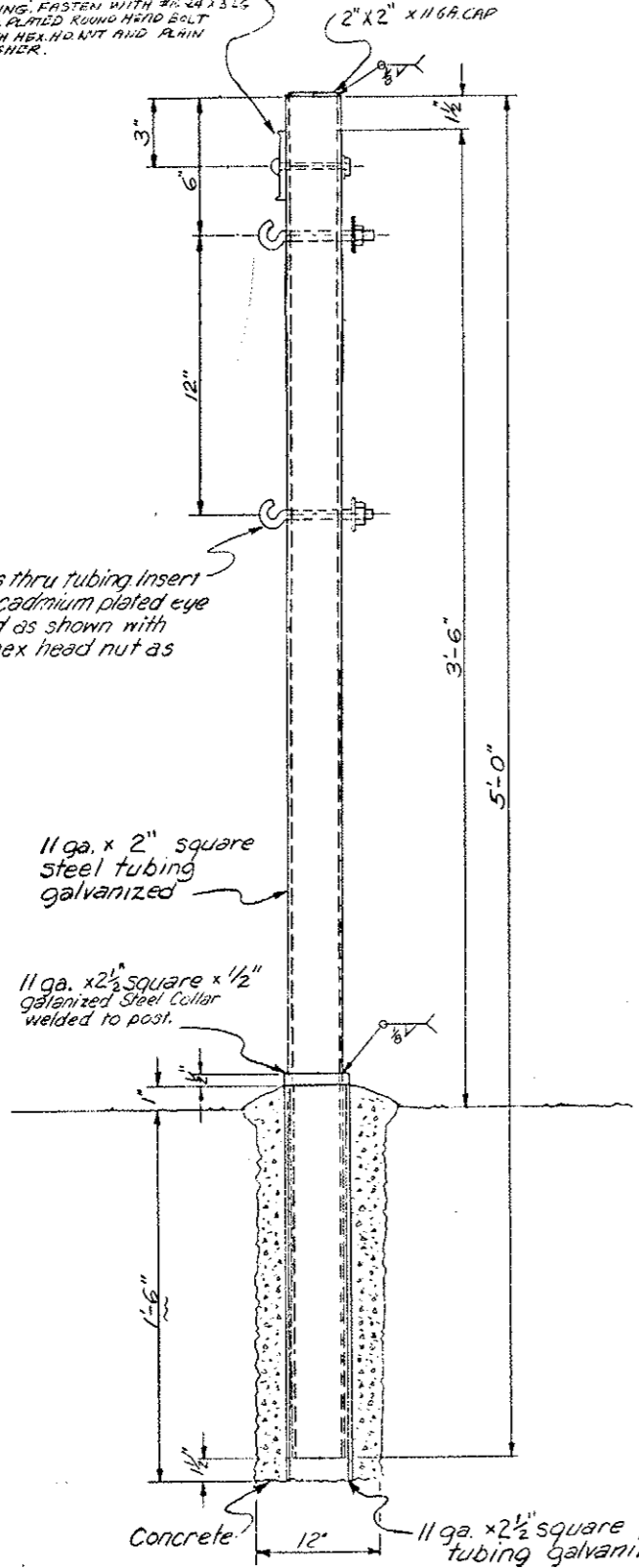
DIVISION OF HIGHWAYS

DETAILS OF INLET GRATING AND FRAME SPECIAL

Weight	Structure
Detail	Number
Drawing Number	of Drawings

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I-70-3(83)220	25	102
AS CONSTRUCTED				
NO REVISIONS	12-22-80	REVISED		VOID

(SEE STANDARD 3612-1A)
 REFLECTOR
 DRILL $\frac{1}{4}$ " HOLE THRU SQUARE TUBING. FASTEN WITH #10 1 1/2" CAD. PLATED ROUND HEAD BOLT WITH HEX. NUT AND PLAIN WASHER.



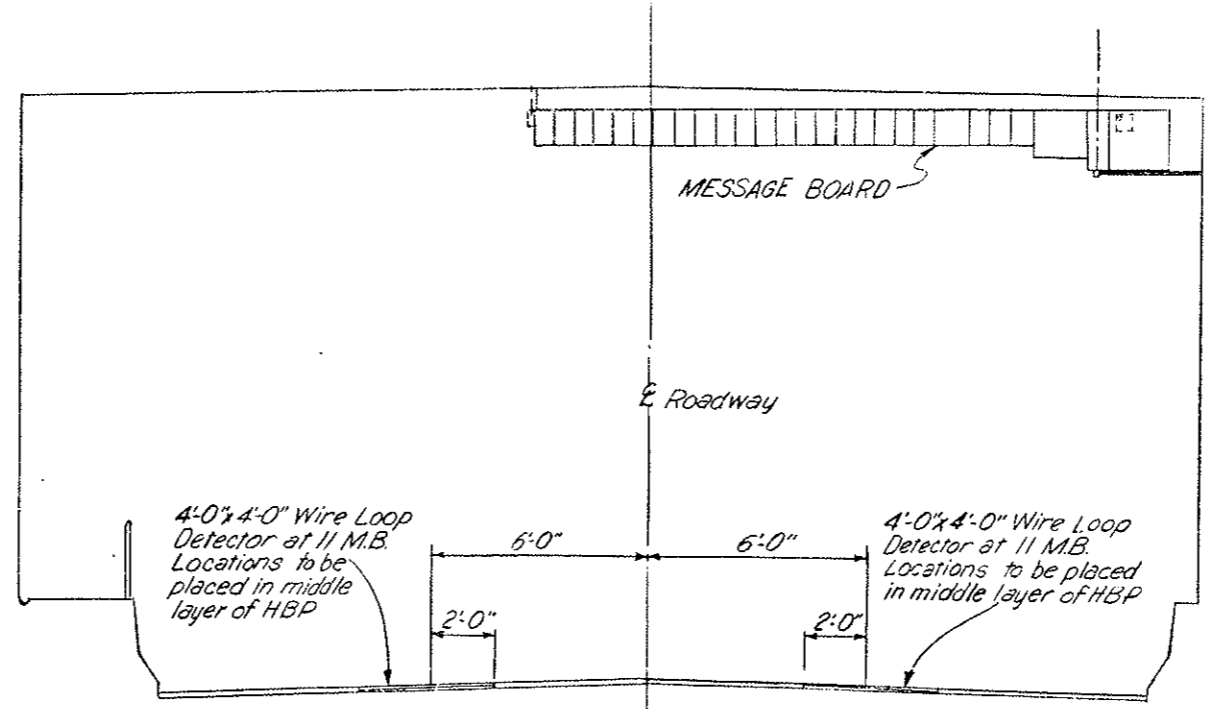
Drill $\frac{1}{16}$ " holes thru tubing insert $\frac{3}{16}$ " x $3\frac{1}{2}$ " cadmium plated eye bolt modified as shown with washer and hex head nut as required.

11 ga. x 2" square steel tubing galvanized

11 ga. x 2 1/2" square x 1/2" galvanized steel collar welded to post.

Concrete 12" 11 ga. x 2 1/2" square steel tubing galvanized

STEEL GUARD POST



TYPICAL SECTION THRU TUNNEL (LOOKING EAST)
 LOOP DETECTOR WIRE DETAIL

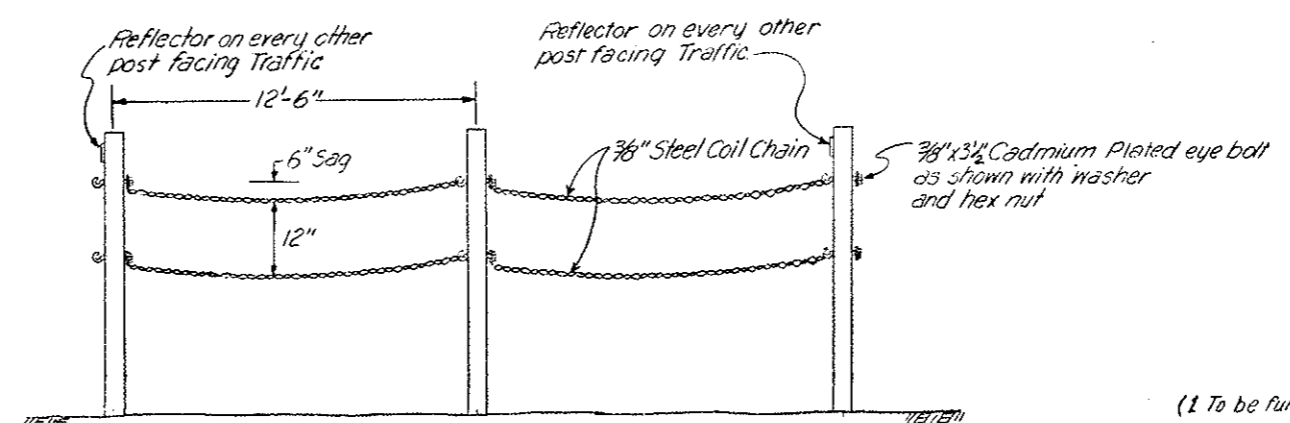
Note: Loop Detector Wire shall be placed at 11 Message Board locations as detailed above.

11 Right Lane Loop Detectors to be wired to existing amplifiers in Message Board. 11 Left Lane Loop Detectors to be wired to new amplifiers in a weatherproof enclosure with subpanel on back of message board & nipple into control logic compartment.

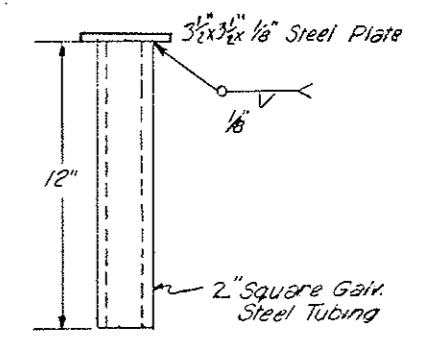
MESSAGE BOARD LOCATION & LOOP DETECTOR

No	STATION
1	40+60.45
2	48+64.45
3	56+68.45
4	64+72.45
5	72+76.45
6	80+80.45
7	88+84.45
8	96+88.45
9	104+92.45
10	112+96.45
11	121+00.45

Note: Loop Detector Detail is shown for information only. All work to be performed by the I-70-3(83)220 Contractor.



STEEL GUARD POST PLACEMENT

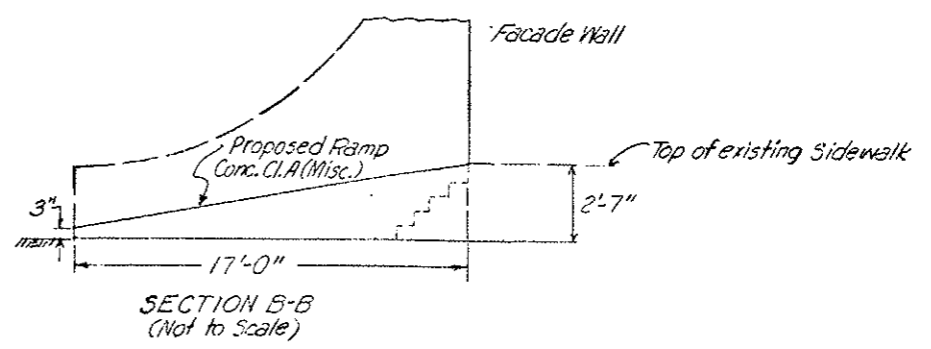
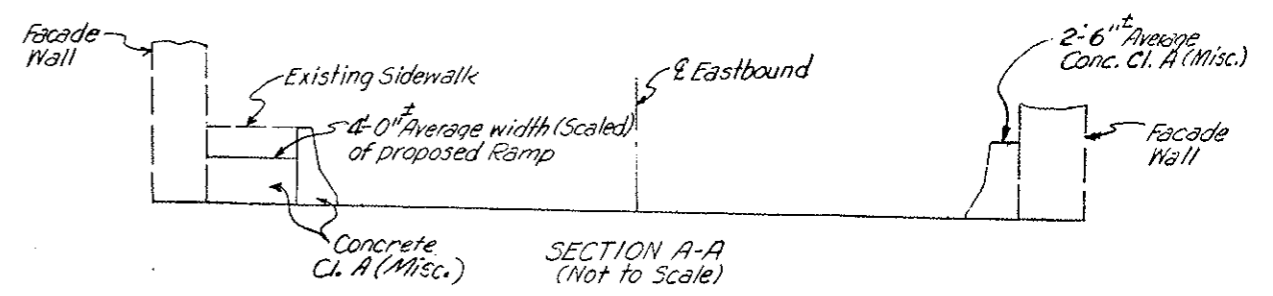
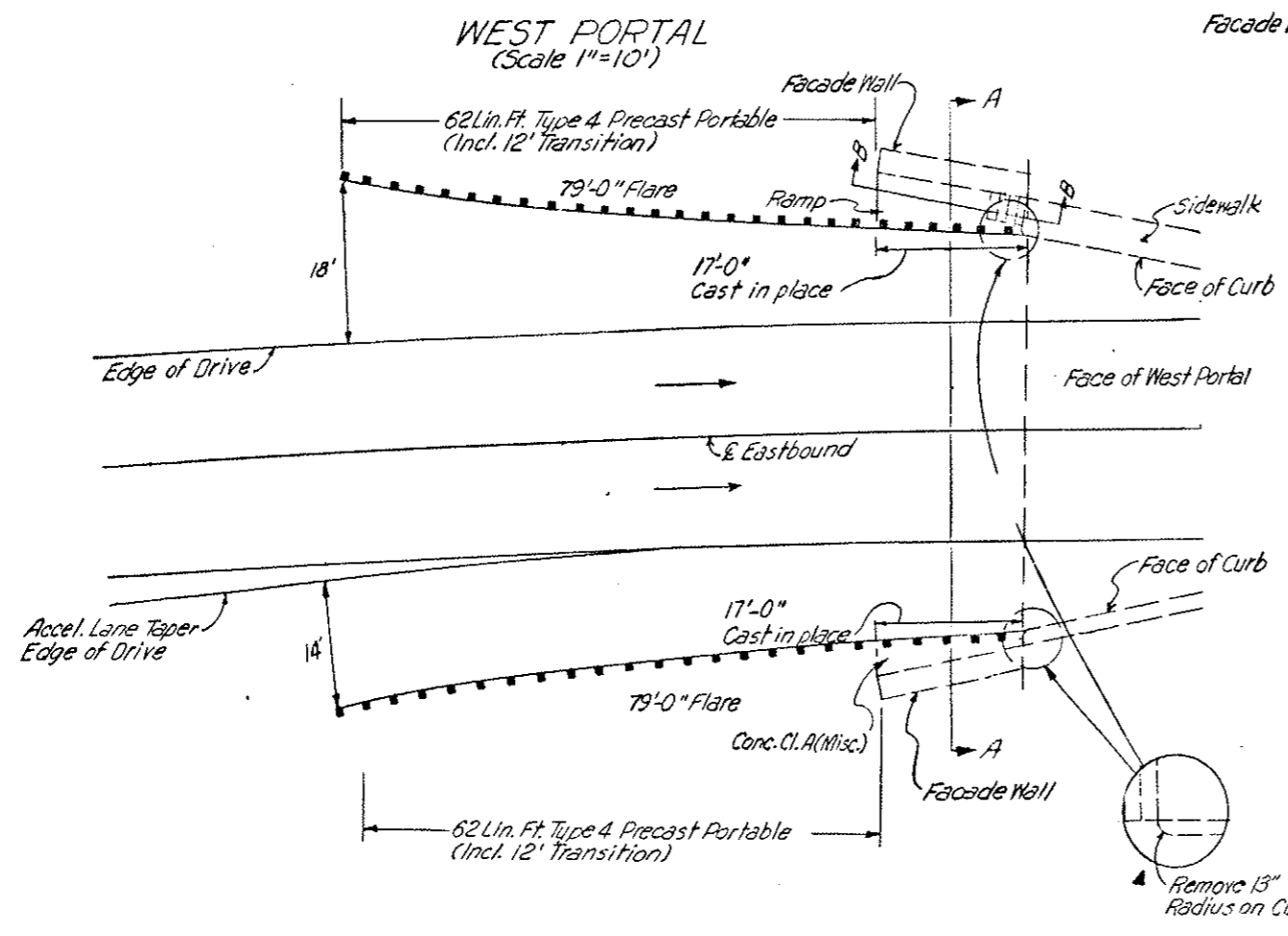
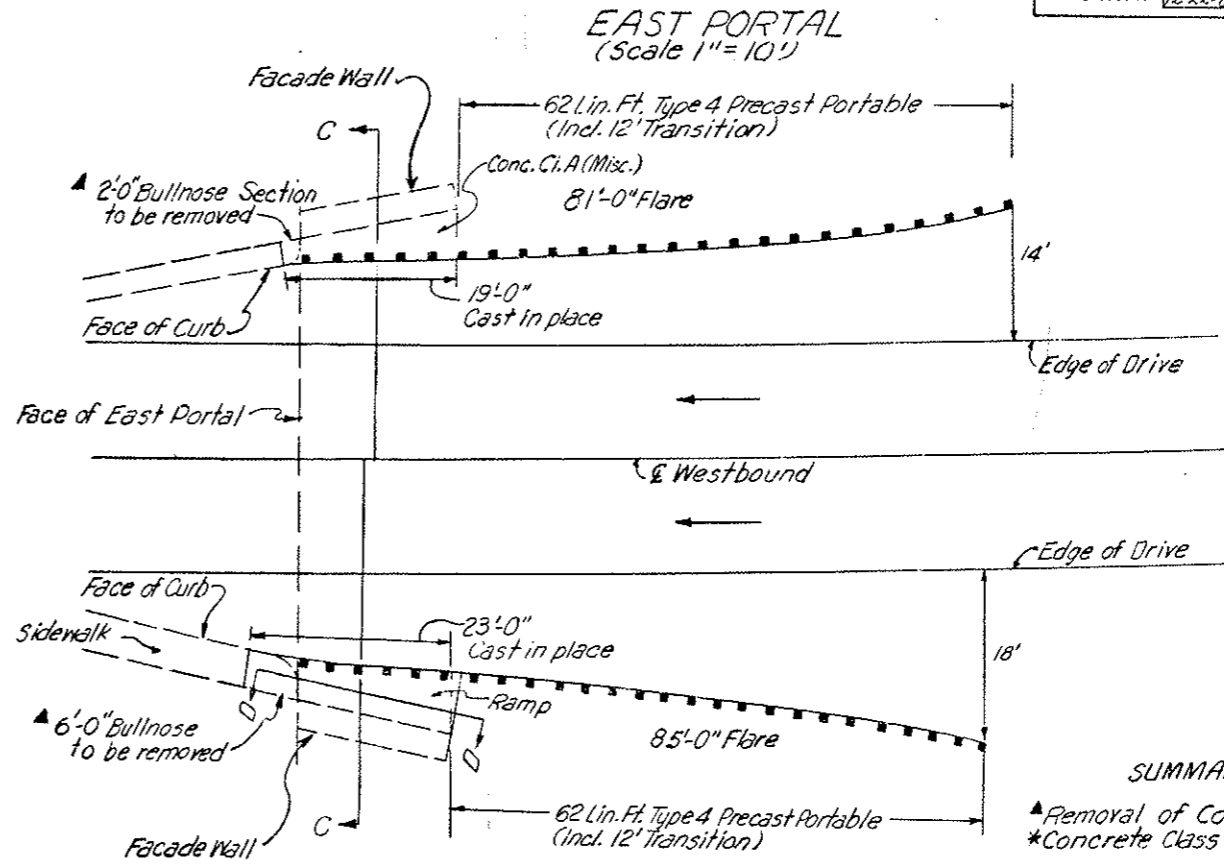
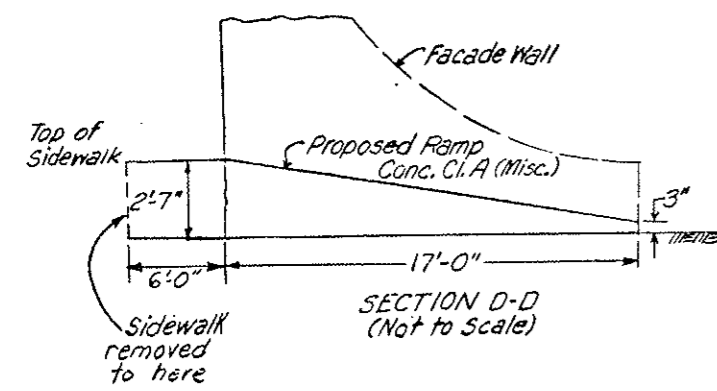
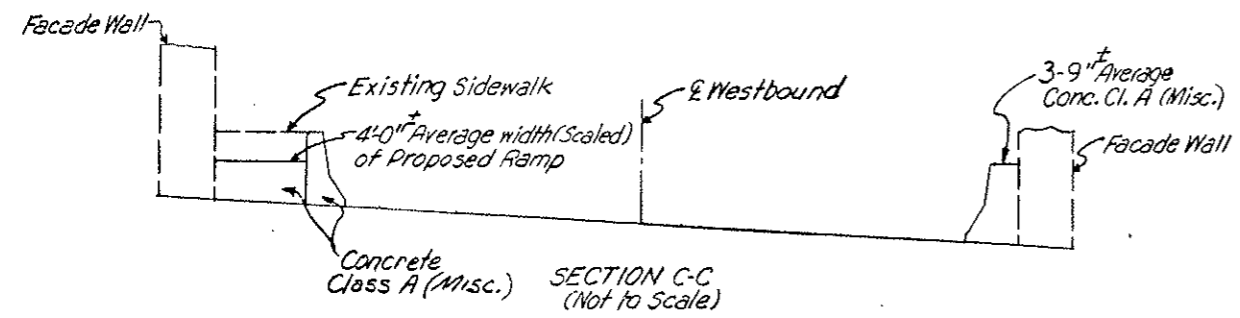


BASE PLUG

(1 To be furnished with each Steel Guard Post.)

GUARD RAIL PLACEMENT DETAILS AT PORTAL ENTRANCES

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(84)220	25	102
AS CONSTRUCTED				
NO REVISIONS		12-22-80	REVISED	VOID



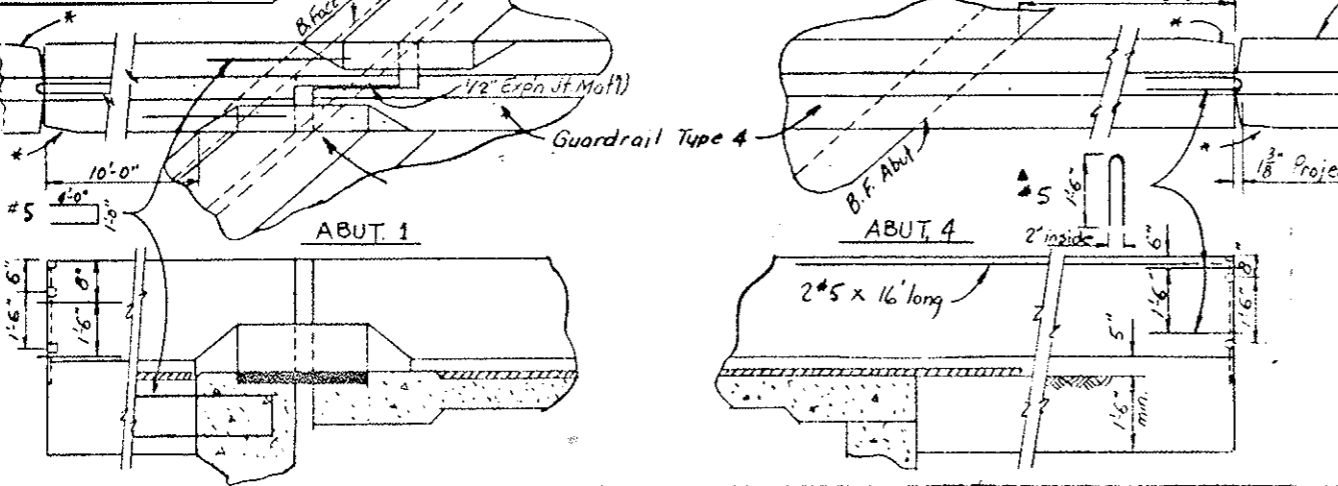
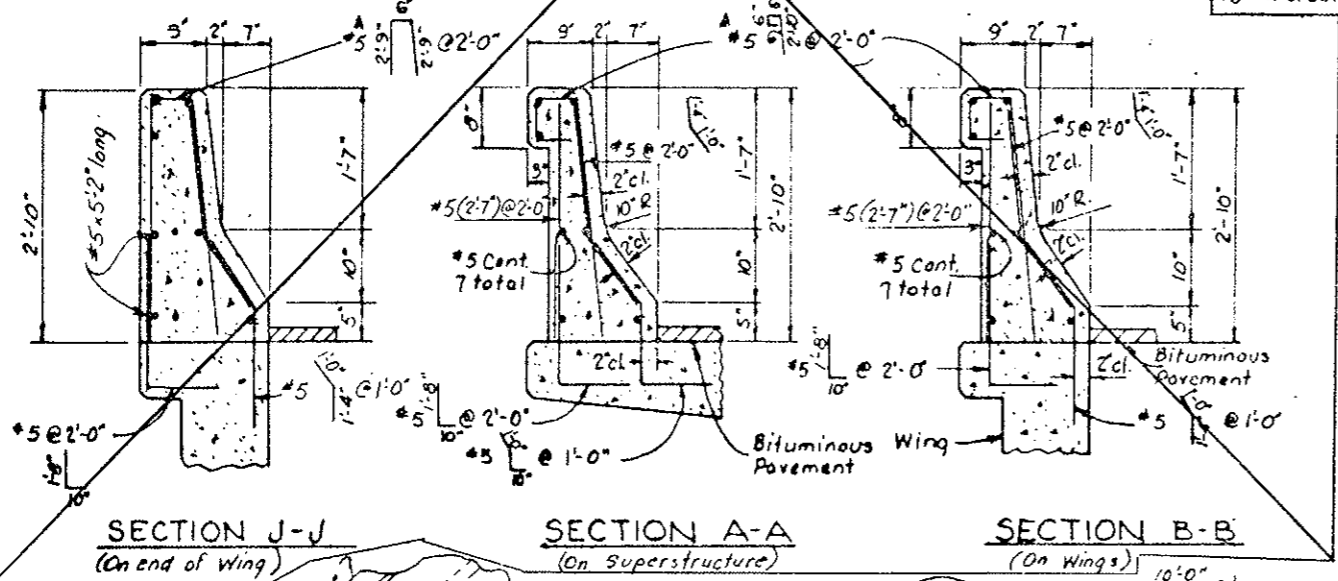
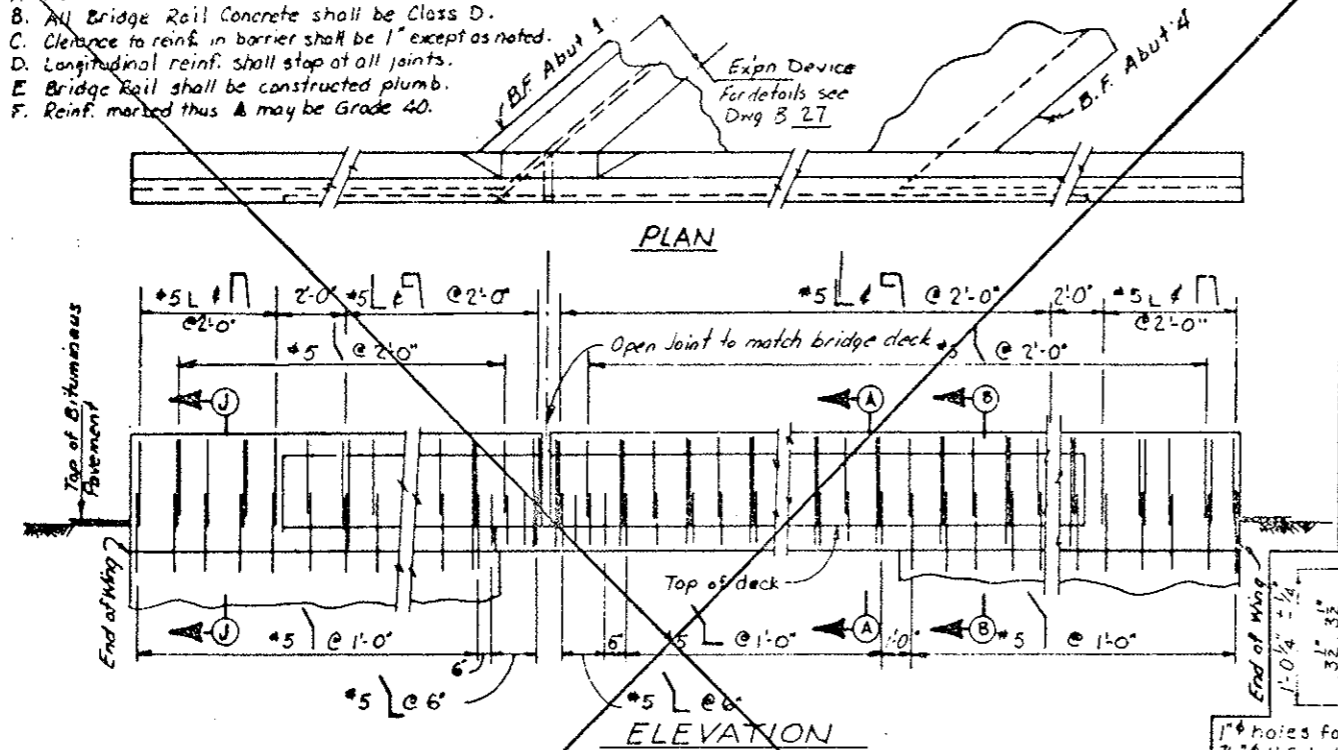
SUMMARY OF QUANTITIES

▲ Removal of Concrete	Cu. Yd.	1.5
* Concrete Class A (Misc.)	Cu. Yd.	20
● Guard Rail Type 4 Precast Portable	Lin. Ft.	248

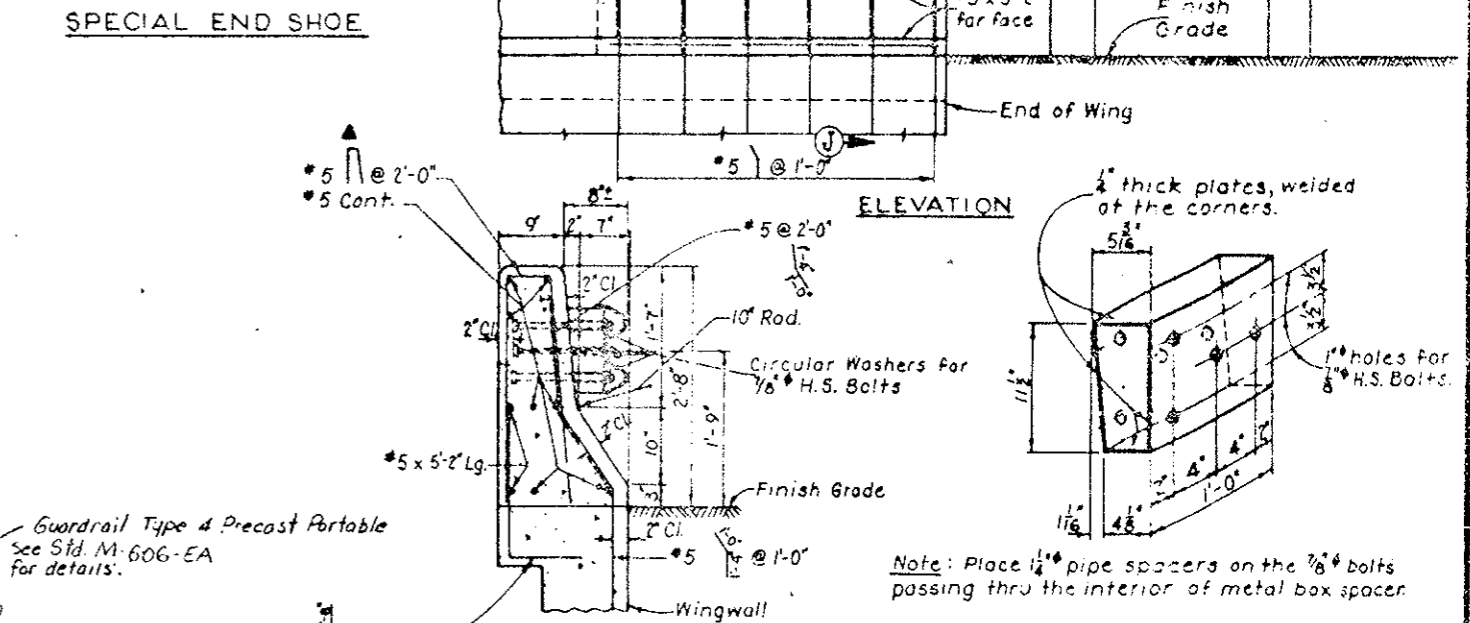
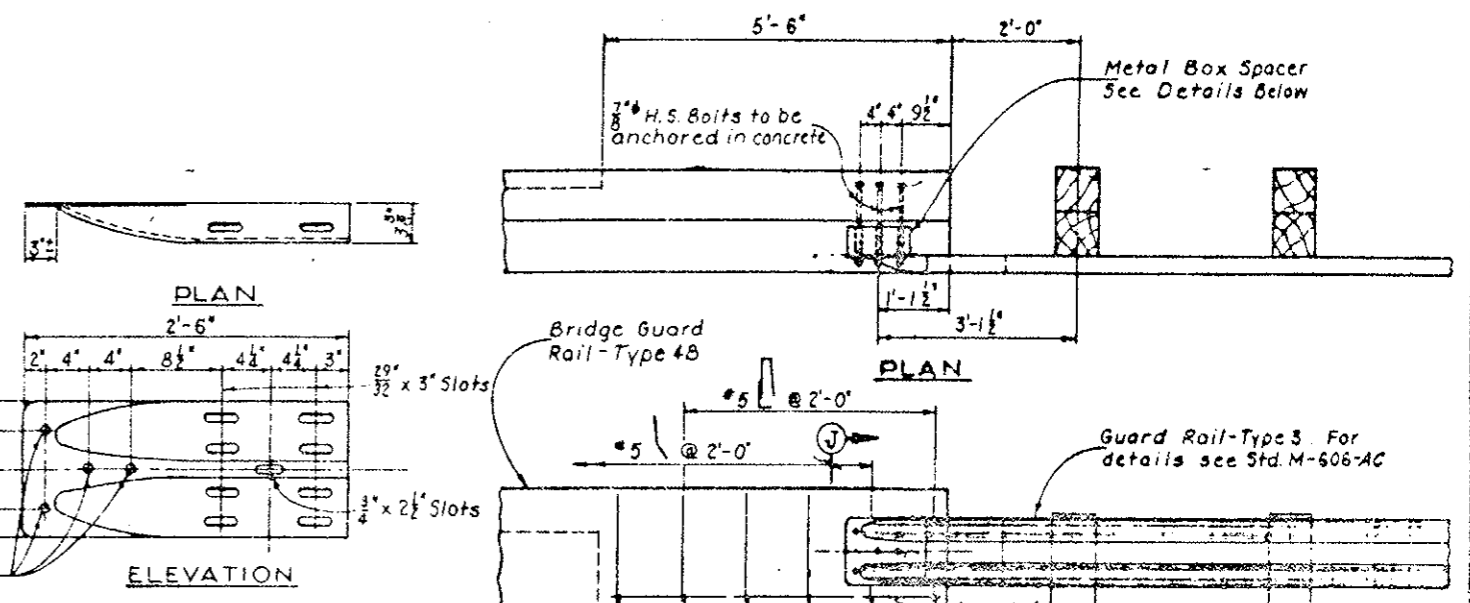
▲ Included in Removal of Structures and Obstructions Tab.
 * Included in Structure List
 ● Included in Guard Rail Tab

Notes:

- A. Walls are to be backfilled before barrier is placed.
- B. All Bridge Rail Concrete shall be Class D.
- C. Clearance to reinf. in barrier shall be 1" except as noted.
- D. Longitudinal reinf. shall stop at all joints.
- E. Bridge Rail shall be constructed plumb.
- F. Reinf. marked thus Δ may be Grade 40.



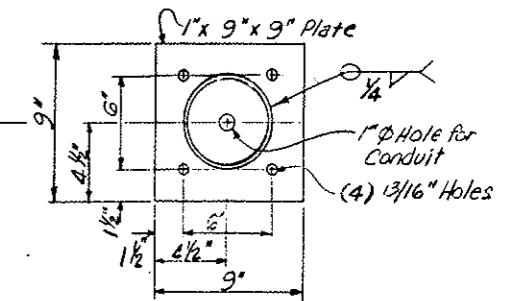
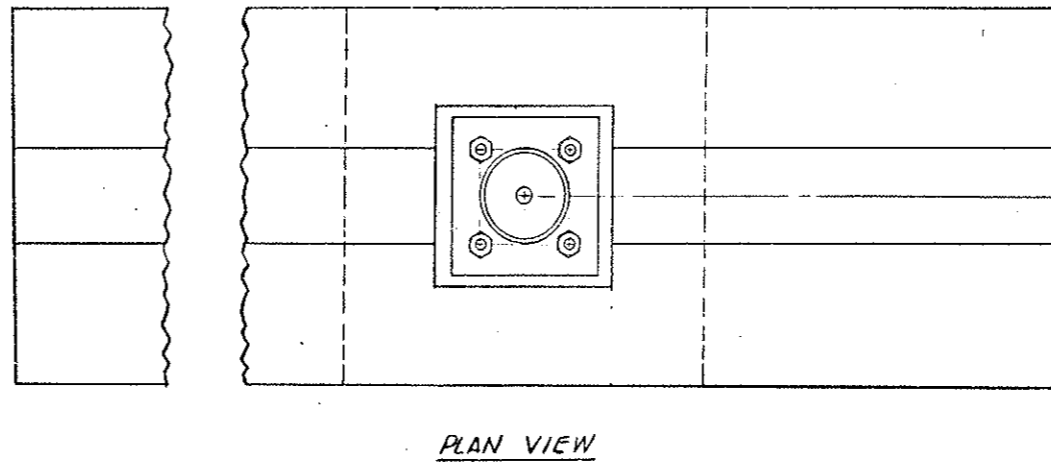
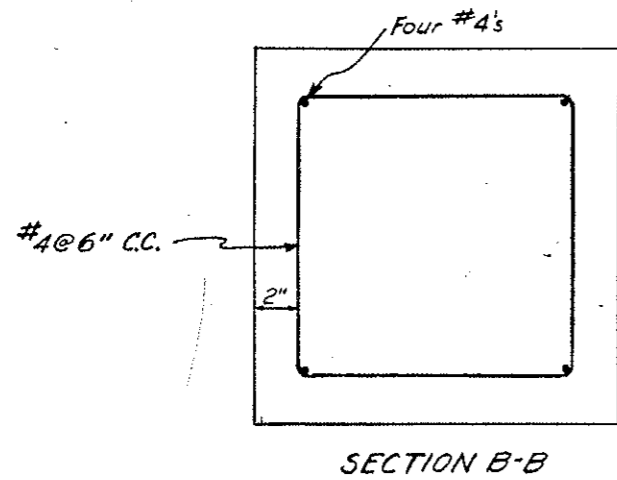
AS CONSTRUCTED		PROJ. NO.	DIVISION	ROLL NO.	DATE	INITIALS
NO REVISIONS	12-22-80	REVISED		VOID		
DESIGNER	DATE	PROJECT NO.	ROLL NO.	DATE	INITIALS	
DESIGNER	DATE	PROJECT NO.	ROLL NO.	DATE	INITIALS	



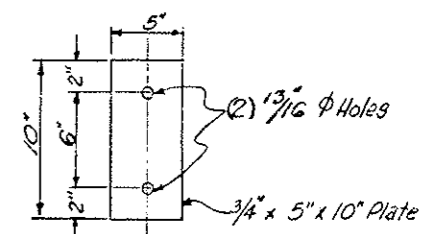
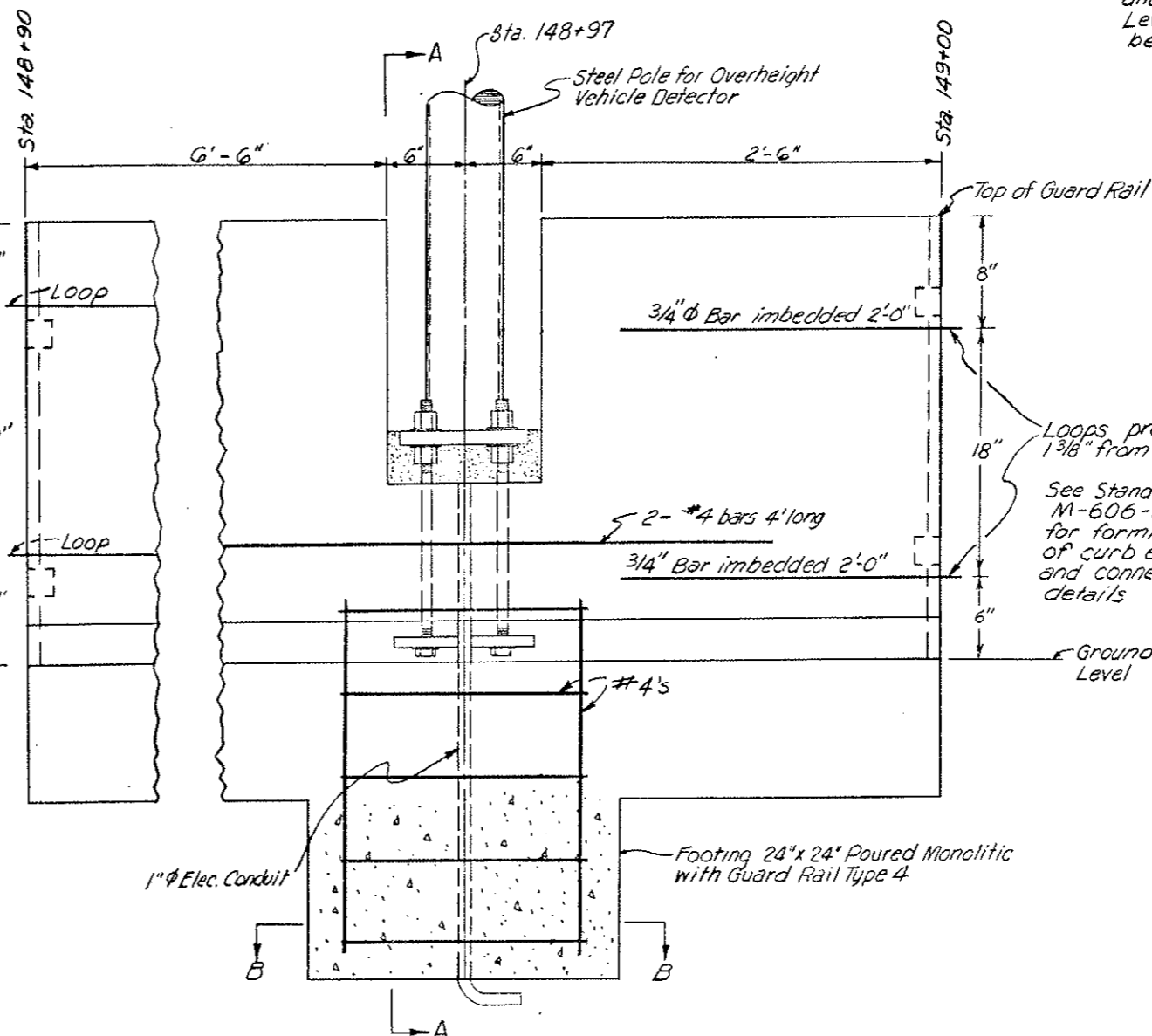
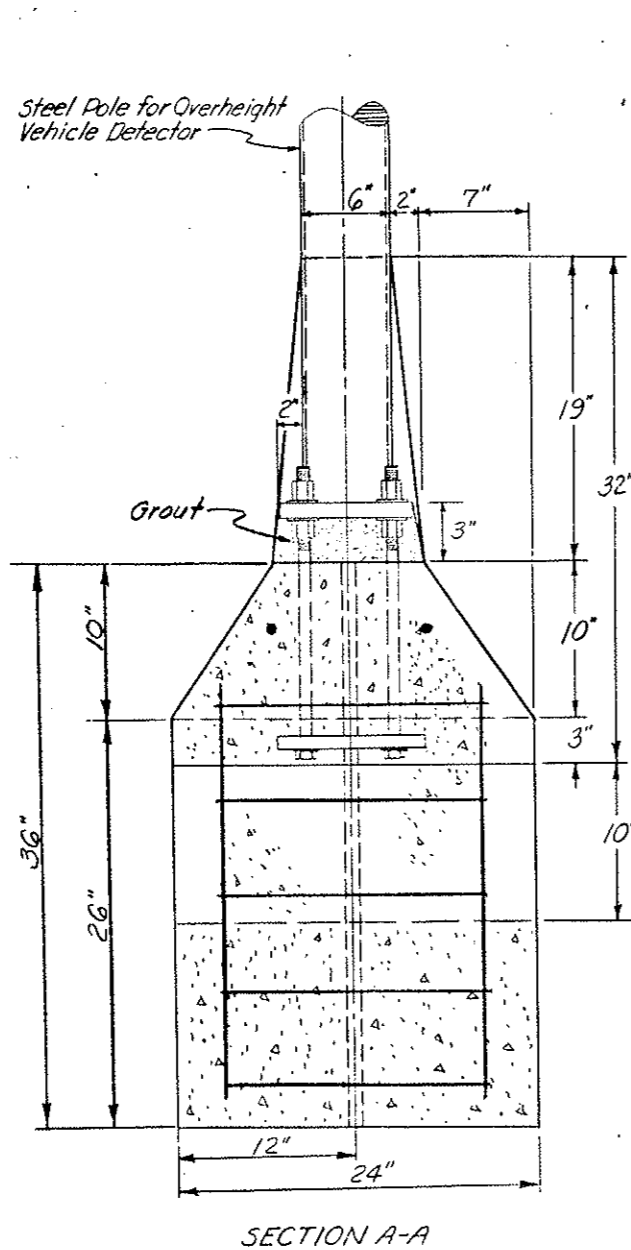
Guardrail Type 4 Precast Portable See Std. M-606-EA for details.
* Taper 1/16" on traffic approach corners to prevent snagging of plowblade.
BRIDGE RAIL CONNECTION (TYPE 4B TO GUARD RAIL TYPE 3)

DIVISION OF HIGHWAYS	
CONNECTION DETAILS, GUARD RAIL TO BRIDGE RAIL TYPE 4B	
Designer	R. Akin
Checker	J. Ringbom
Drawing Number	8
Structure Number	F-13-A
Drawings	

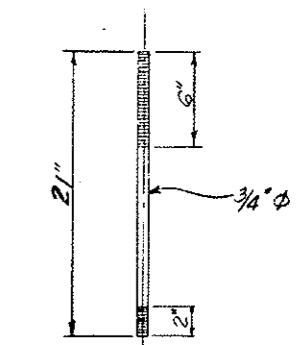
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(84)220	28	102
AS CONSTRUCTED				
NO REVISIONS	12-22-82	REVISED		VOID



DETAIL - BASE PLATE
 Base Plate to be welded to bottom of overhead vehicle detector pole and paid for as part of the reset item. Leveling and fastening bolts shall also be included in the resetting of pole.



DETAIL - BOLT PLATE
 2 Req'd. on bottom of Anchor Bolts



DETAIL - ANCHOR BOLT
 4 Req'd.

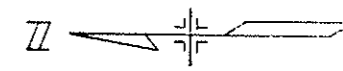
GUARD RAIL TYPE 4 SPECIAL ~ 10 FT. POURED IN PLACE

(R-1) Added Note 5-7-79 E.B.

AS CONSTRUCTED		
NO REVISIONS	REVISED 12-22-80	VOID

FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(84)220	29	102

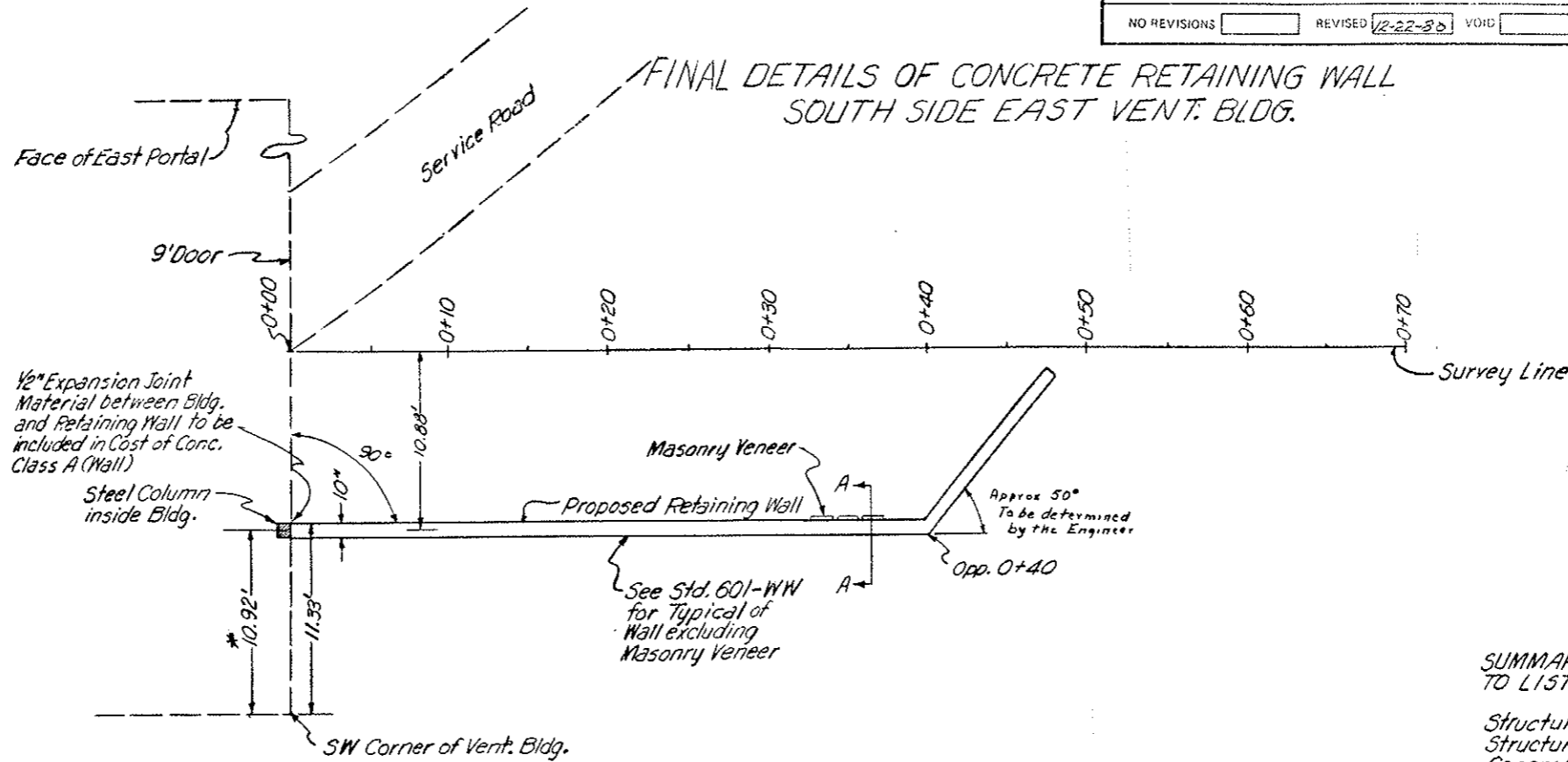
Scale 1"=5'



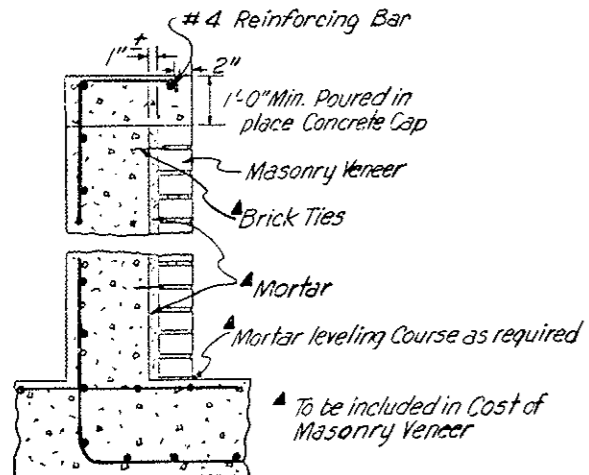
Note: Metal Ties for Masonry Veneer shall be placed such that maximum area = 4 1/2 Sq. Ft. per tie. Horizontal ladder or truss type standard weight ties shall be provided at maximum 16" spacing

Masonry Veneer shall be constructed after Mortar leveling course and Backfilling to top of footer have been completed.

FINAL DETAILS OF CONCRETE RETAINING WALL SOUTH SIDE EAST VENT. BLDG.



DATE: _____ BY: _____
SUPERVISOR: _____
ENGINEER: _____
NOTE BOOK NO. _____



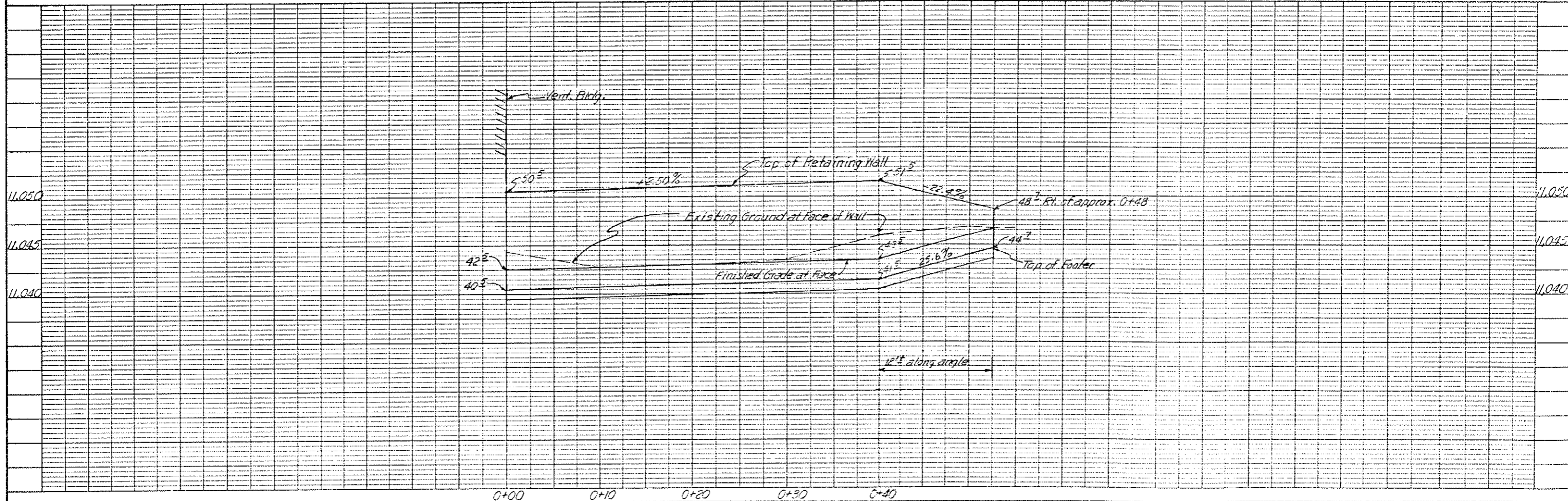
SECTION A-A
(Not to Scale)

(R-1)
* Grout by pumping required to fill cavity behind the Brick Veneer building wall from the foundation to the height of the retaining wall. Cost is subsidiary to the work.

SUMMARY OF QUANTITIES CARRIED TO LIST OF STRUCTURES

Structure Excavation	81 Cu. Yds.
Structure Backfill	57 Cu. Yds.
Concrete Class A (Wall)	28 Cu. Yds.
Reinforcing Steel	2347 Lb.
Masonry Veneer	432 - 378 Sq. Ft.

DATE: _____ BY: _____
SUPERVISOR: _____
ENGINEER: _____
NOTE BOOK NO. _____



FINAL SKI AREA ACCESS C.B.C. EXTENSION

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70-3(34)220	29A	102
AS CONSTRUCTED				
NO REVISIONS		REVISED	2-22-80	VOID

This sheet added 5-18-79 E.B.

SUMMARY OF C.B.C. EXTENSION QUANTITIES

(Quantities carried to List of Structures unless noted)

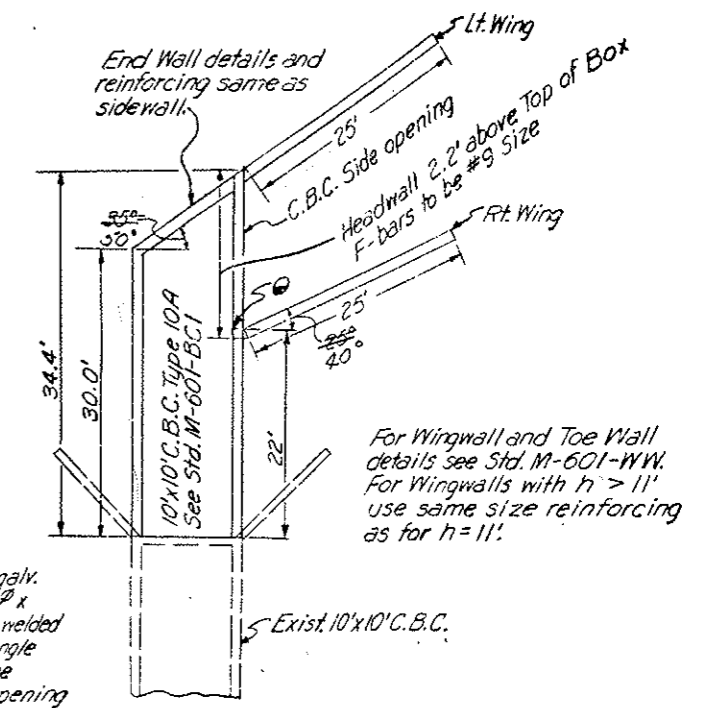
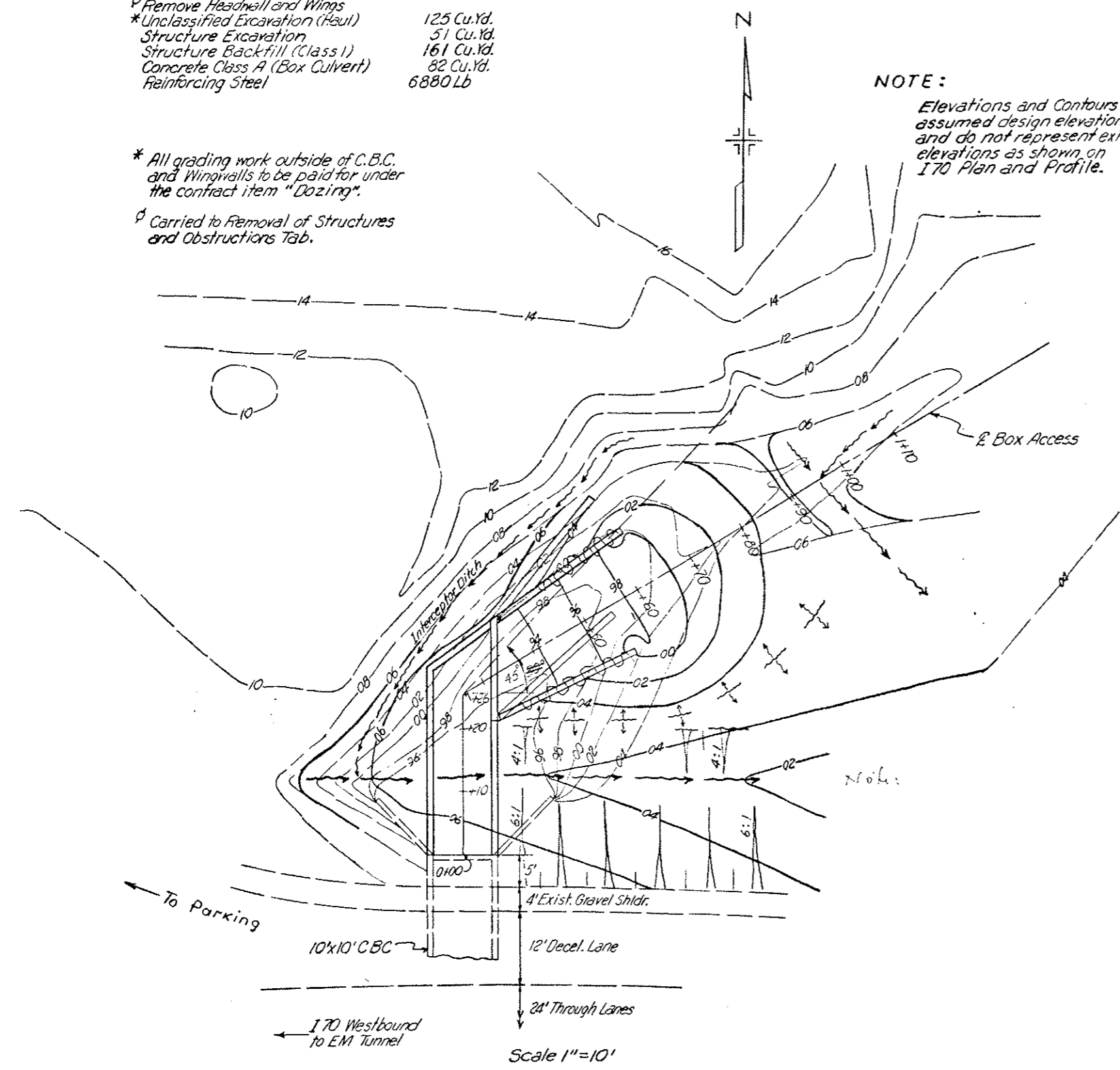
- Remove Headwall and Wings
- *Unclassified Excavation (Haul) 125 Cu.Yd.
- Structure Excavation 51 Cu.Yd.
- Structure Backfill (Class I) 161 Cu.Yd.
- Concrete Class A (Box Culvert) 82 Cu.Yd.
- Reinforcing Steel 6880 Lb

* All grading work outside of C.B.C. and Wingwalls to be paid for under the contract item "Dozing".

Carried to Removal of Structures and Obstructions Tab.

NOTE:

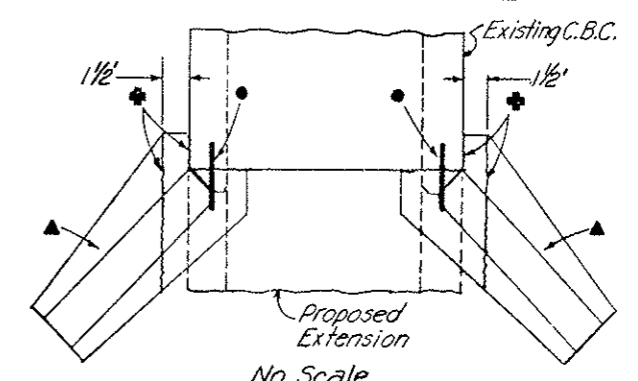
Elevations and Contours are assumed design elevations and do not represent existing elevations as shown on I 70 Plan and Profile.



4"x4"x 3/8"x10' long galv. Steel angle with 1/2" dia x 6" long stud anchors welded to the inside of the angle shall be placed at the Southeast corner opening of the Box. All costs of the above requirements will not be paid for separately but shall be included in the work.

Scale 1"=10'

DETAIL FOR HEADWALL AND WINGWALL REMOVAL

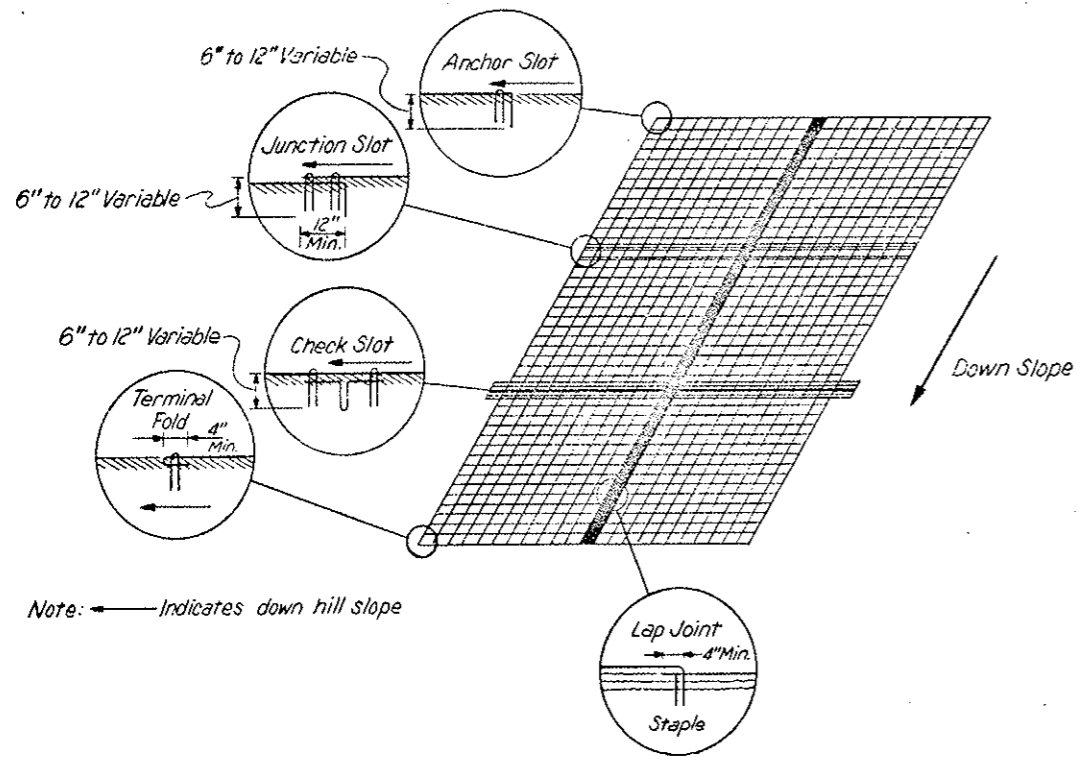


- * Remove along these lines.
 - 2 Ft. #4 Reinforcing Bars shall be placed at every Longitudinal Bar shown on the Standard.
 - ▲ Portion of Wingwall to remain in place.
- The cost of drilling holes and placing tie bars is to be included in payment for "Reinforcing Steel".

Scale 1"=10'

SOIL RETENTION BLANKET JOINT DETAILS

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-5(84)220	30	102
AS CONSTRUCTED				
NO REVISIONS	2-22-80	REVISED		VOID



Note: ← Indicates down hill slope

Description of Joints and Slots

Anchor Slot - Buried upper edge of Blanket.

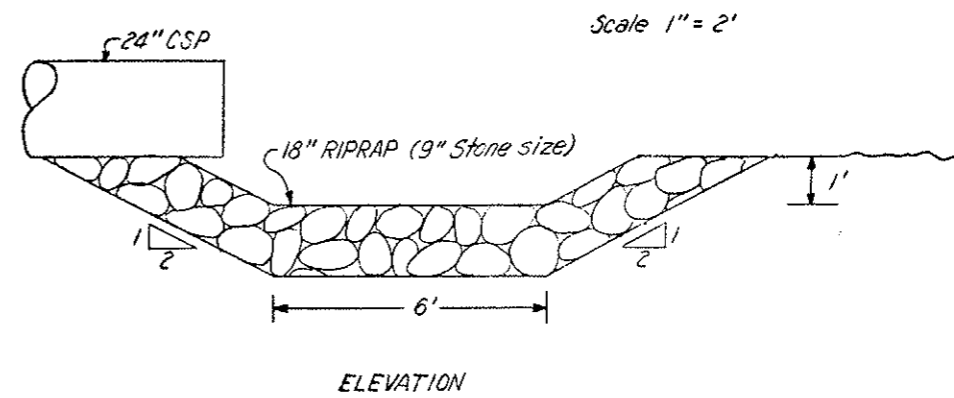
Junction Slot - Joint between upper and lower pieces.
 Upper pieces overlapping buried end of lower piece.

Check Slot - Extra piece of blanket folded lengthwise and buried perpendicular to the slope. Continuous upper piece overlaying the unfolded portion remaining above ground.

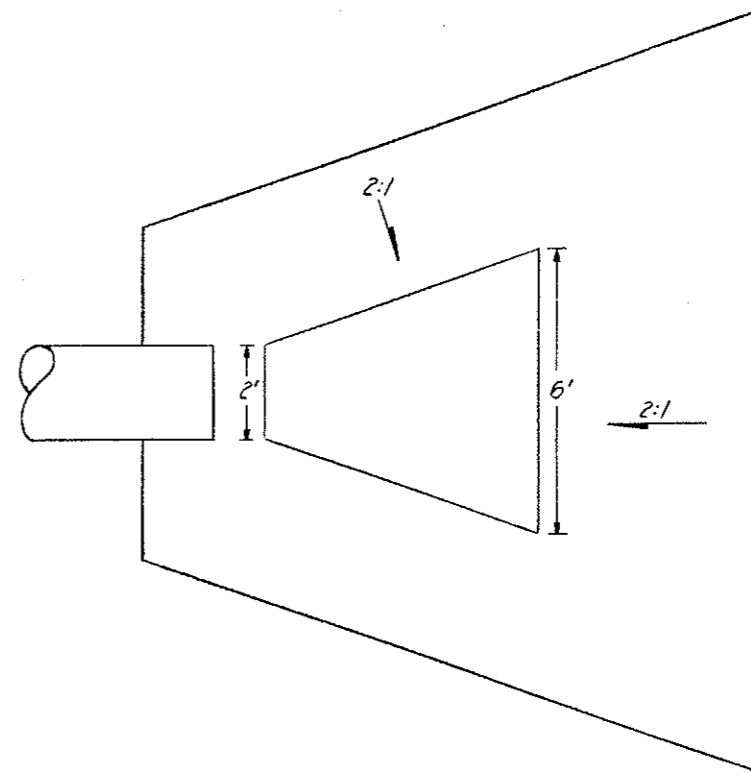
Terminal Fold - Bottom edge of blanket, folded under and stapled.

Lap Joint - Overlap joint between two rolls, running down the slope.

ENERGY DISSIPATOR
 Sta. 417+22Rt. & 135+25Rt.



ELEVATION



PLAN

FINAL WEST PORTAL AREA DETAILS

GEOMETRICS

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(84)220	31	112

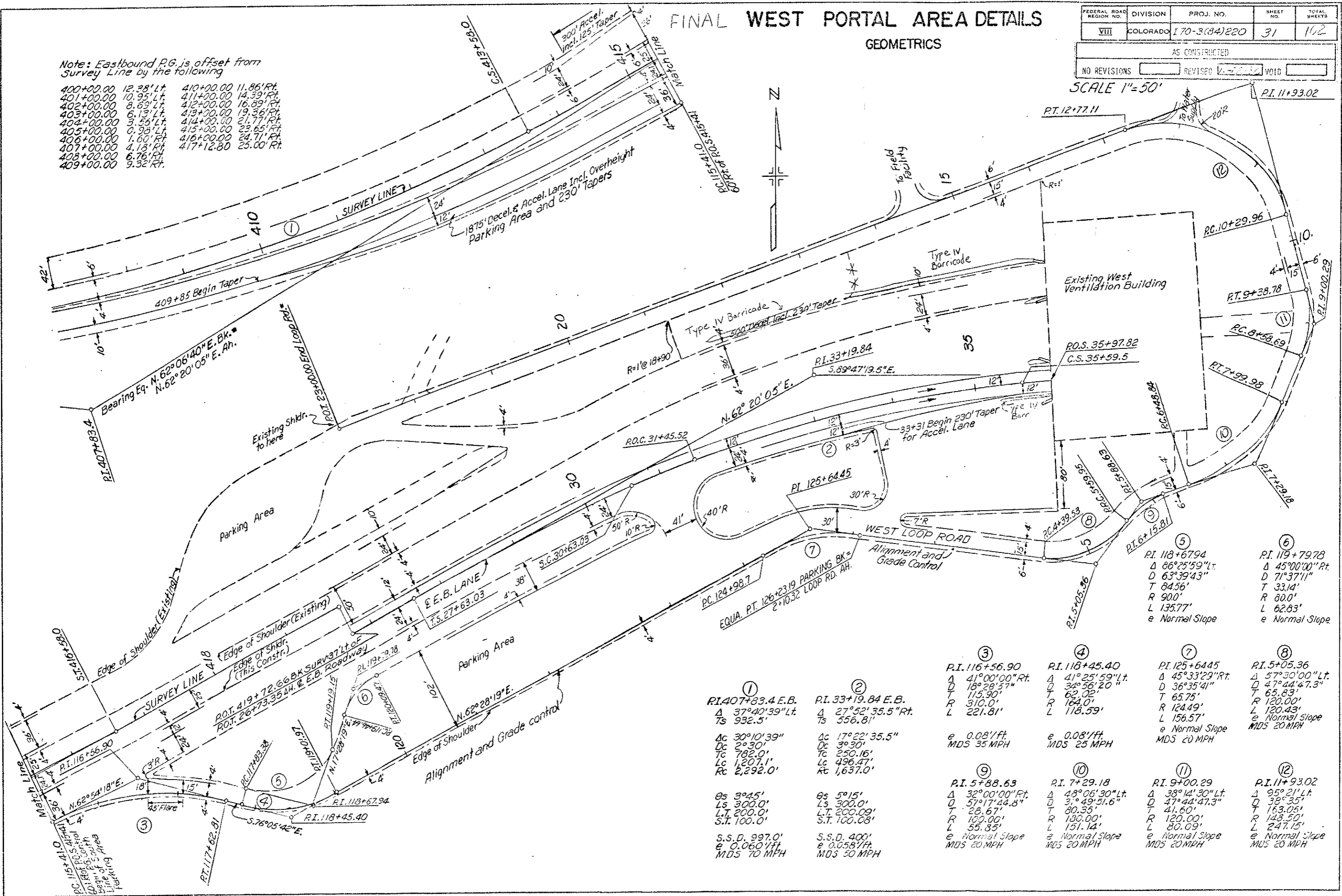
AS CONSTRUCTED

NO REVISIONS REVISED VOID

SCALE 1"=50'

Note: Eastbound P.G. is offset from Survey Line by the following

400+00.00	12.38' Lt.	410+00.00	11.86' Rt.
401+00.00	10.95' Lt.	411+00.00	14.39' Rt.
402+00.00	8.63' Lt.	412+00.00	16.89' Rt.
403+00.00	6.13' Lt.	413+00.00	19.36' Rt.
404+00.00	3.56' Lt.	414+00.00	21.77' Rt.
405+00.00	0.95' Lt.	415+00.00	23.65' Rt.
406+00.00	1.60' Rt.	416+00.00	24.71' Rt.
407+00.00	4.13' Rt.	417+12.80	25.00' Rt.
408+00.00	6.76' Rt.		
409+00.00	9.32' Rt.		



<p>① P.I. 1407+83.4 E.B. Δ 37°40'39" Lt. Ts 932.5' Cc 30°10'39" Dc 2°30' Lc 782.0' Lt 1207.1' Rc 2,292.0'</p>	<p>② P.I. 33+19.84 E.B. Δ 27°52'35.5" Rt. Ts 556.8' Cc 17°22'35.5" Dc 3°30' Lc 250.16' Lt 496.47' Rc 1,637.0'</p>	<p>③ P.I. 116+56.90 Δ 41°00'00" Rt. D 18°28'57" T 115.90' R 310.0' L 221.81' e 0.08'/ft. MDS 35 MPH</p>	<p>④ P.I. 118+45.40 Δ 41°25'59" Lt. D 34°56'20" T 62.02' R 184.0' L 118.59' e 0.08'/ft. MDS 25 MPH</p>	<p>⑦ P.I. 125+64.45 Δ 45°33'29" Rt. D 36°35'41" T 65.83' R 120.00' L 156.57' e Normal Slope MDS 20 MPH</p>	<p>⑧ P.I. 5+05.36 Δ 57°30'00" Lt. D 47°44'47.3" T 65.83' R 120.00' L 120.43' e Normal Slope MDS 20 MPH</p>
<p>⑤ P.I. 115+41.0 Δ 60°54'18" E. Ls 300.0' Lt 200.0' S.T. 100.0'</p>	<p>⑥ P.I. 118+67.94 Δ 57°00'00" Lt. D 47°44'47.3" T 65.83' R 120.00' L 120.43' e Normal Slope MDS 20 MPH</p>	<p>⑨ P.I. 5+88.63 Δ 32°00'00" Rt. D 57°17'44.8" T 28.67' R 100.00' L 55.85' e Normal Slope MDS 20 MPH</p>	<p>⑩ P.I. 7+29.18 Δ 48°06'30" Lt. D 31°49'51.6" T 80.55' R 130.00' L 80.09' e Normal Slope MDS 20 MPH</p>	<p>⑪ P.I. 9+00.29 Δ 38°14'30" Lt. D 47°44'47.3" T 41.60' R 120.00' L 80.09' e Normal Slope MDS 20 MPH</p>	<p>⑫ P.I. 11+93.02 Δ 95°21' Lt. D 38°35' T 163.05' R 148.50' L 247.15' e Normal Slope MDS 20 MPH</p>

FINAL WEST PORTAL AREA DETAILS

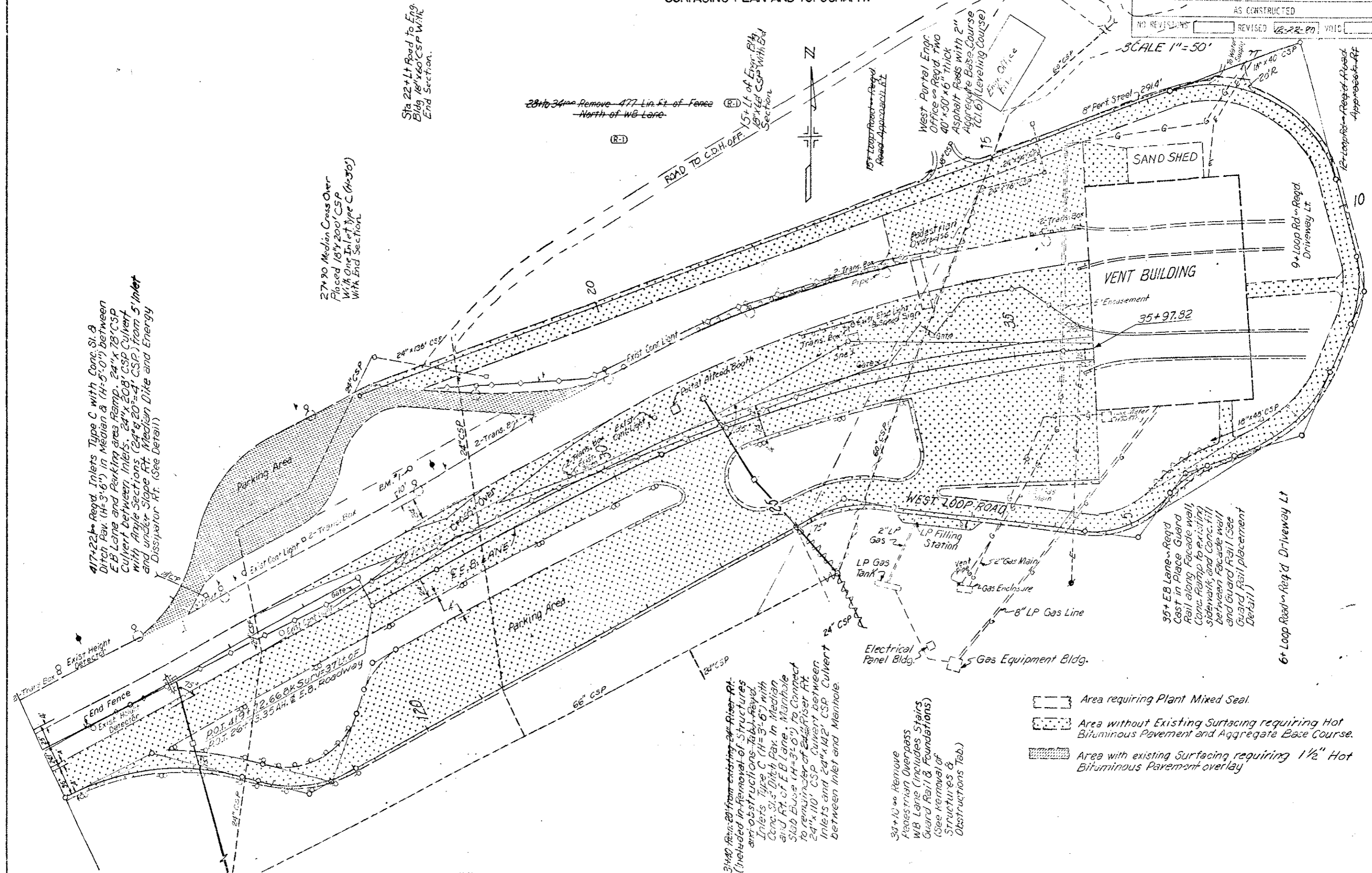
SURFACING PLAN AND TOPOGRAPHY

(R-1) Revised Fencing Removal Quantity & Removed Note 5-7-74 E.B.

SECTION NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
VIII	ROADWAYS	I 70-3(84)220	32	102

AS CONSTRUCTED	
NO REVISIONS	REVISED 6-22-77

SCALE 1" = 50'



417+22.1 Regd. Inlets Type C with Conc. Sl. & Ditch Pav. (H=3'-6") in Median & (H=5'-0") between EB Lane and Parking area Ramp. 24"x28" CSP Culvert between inlets. 24"x20" CSP Culvert with Angle Sections (24"x20"=4' CSP) from 5' Inlet and under Slope Rt. Median Dike and Energy Dissipator Rt. (See Detail)

27+30 Median Cross Over Placed 18"x20" CSP With One Inlet Type C (H=3'-6") With End Section

Sta 22+14 Road to Eng. Bldg. 18"x60" CSP With End Section.

28+10.34 Remove 477 Lin. Ft. of Fence North of WB Lane

31+40 Remove 20' from existing 24" Riser Pt. (Included in Removal of Structures and Obstructions Tab. Revd. Inlets Type C (H=3'-6") with Conc. Sl. Ditch Pav. in Median and Ft. of E.B. Lane. Manhole Slab Base (H=3'-0") to Connect to remainder of 24" Riser Pt. 24"x10" CSP Culvert between Inlets and 24"x12" CSP Culvert between Inlet and Manhole.

34+10 Remove Pedestrian Overpass WB Lane (Includes Stairs Guard Rail & Foundations) (See Removal of Structures & Obstructions Tab.)

- Area requiring Plant Mixed Seal.
- Area without Existing Surfacing requiring Hot Bituminous Pavement and Aggregate Base Course.
- Area with existing Surfacing requiring 1 1/2" Hot Bituminous Pavement overlay

35+ EB Lane Regd. Cast in Place Guard Rail along Facade wall, Conc. Ramp to existing sidewalk and Conc. fill between facade wall and Guard Rail (See Detail)

6+ Loop Road Reg'd Driveway Lt.

9+ Loop Rd. Reg'd Driveway Lt.

12+ Loop Rd. Reg'd Driveway Lt.

FINAL WEST PORTAL AREA DETAILS

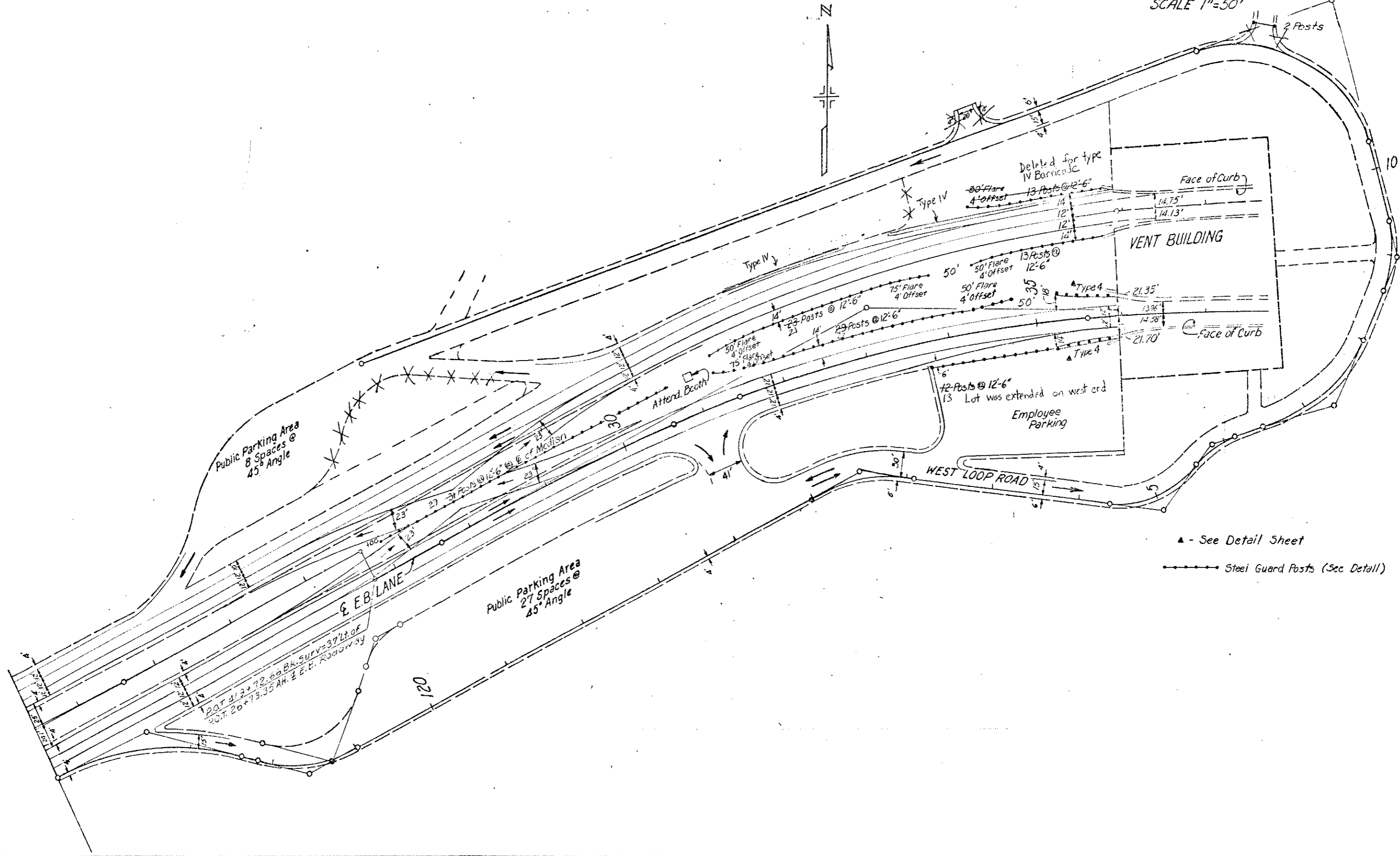
TRAFFIC CIRCULATION

FEDERAL ROAD REGION NO	DIVISION	PROJ NO	SHEET NO	TOTAL SHEETS
VIII	COLORADO	I 70-3(84)220	53	102

AS CONSTRUCTED

NO REVISIONS	REVISED	VOID
	12-22-80	

SCALE 1"=50'



▲ - See Detail Sheet
 ●●●● Steel Guard Posts (See Detail)

FINAL EAST PORTAL AREA DETAILS

GEOMETRICS

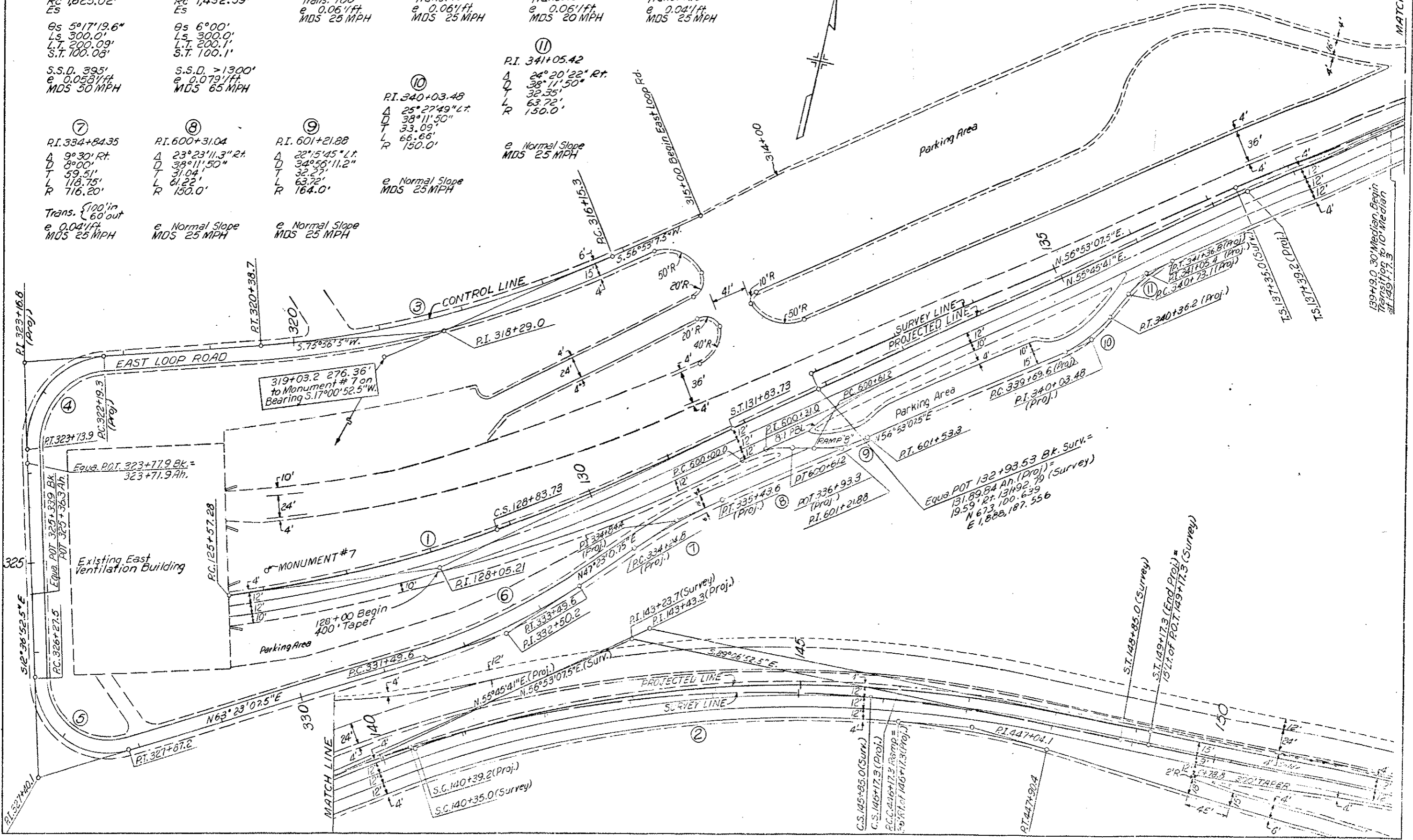
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70-3(84)220	54	102

AS CONSTRUCTED

NO REVISIONS REVISION VOID

SCALE 1"=50'

- ① P.I. 128+05.2 (E.B.)
 Δ 16°47'55.5" Lt.
 Ts 382.26'
 Δc 11°30'35.9"
 Δc 3°31'33"
 Tc 247.93'
 Lc 326.45'
 Rc 1625.02'
 Es
 θs 5°17'19.6"
 Ls 300.0'
 Lt 200.09'
 S.T. 100.06'
 S.S.D. 395'
 e 0.0531/ft
 MDS 50 MPH
- ② P.I. 143+43.3 (E.B.)
 Δ 35°07'26.5" Rt.
 Ts 604.1'
 Δc 23°07'26.5"
 Δc 4°00'
 Tc 293.04'
 Lc 378.1'
 Rc 1,432.39'
 Es
 θs 6°00'
 Ls 300.0'
 Lt 200.1'
 S.T. 100.1'
 S.S.D. >1300'
 e 0.0791/ft
 MDS 65 MPH
- ③ P.I. 318+29.0
 Δ 19°02'57.5" Rt.
 D 4°30'
 T 213.63'
 L 423.32'
 R 1,273.24'
 Trans. 100'
 e 0.061/ft
 MDS 25 MPH
- ④ P.I. 323+15.8
 Δ 88°32'57.5" Lt.
 D 57°17'44.8"
 T 97.5'
 L 154.55'
 R 100.0'
 Trans. 100'
 e 0.061/ft
 MDS 25 MPH
- ⑤ P.I. 327+40.1
 Δ 104°00' Lt.
 D 65°06'32"
 T 112.63'
 L 159.73'
 R 88.0'
 Trans. 100'
 e 0.061/ft
 MDS 20 MPH
- ⑥ P.I. 332+50.2
 Δ 16°00' Lt.
 D 8°00'
 T 100.65'
 L 200.0'
 R 716.2'
 Trans. 100' in 60' out
 e 0.041/ft
 MDS 25 MPH
- ⑦ P.I. 334+84.35
 Δ 9°30' Rt.
 D 8°00'
 T 59.51'
 L 118.75'
 R 716.20'
 Trans. 100' in 60' out
 e 0.041/ft
 MDS 25 MPH
- ⑧ P.I. 600+31.04
 Δ 23°23'11.3" Rt.
 D 38°11'50"
 T 31.04'
 L 61.22'
 R 150.0'
 e Normal Slope
 MDS 25 MPH
- ⑨ P.I. 601+21.88
 Δ 22°15'45" Lt.
 D 34°56'11.2"
 T 32.27'
 L 63.72'
 R 164.0'
 e Normal Slope
 MDS 25 MPH
- ⑩ P.I. 340+03.48
 Δ 25°27'49" Lt.
 D 38°11'50"
 T 33.09'
 L 66.66'
 R 150.0'
 e Normal Slope
 MDS 25 MPH
- ⑪ P.I. 341+05.42
 Δ 26°20'22" Rt.
 D 38°11'50"
 T 32.35'
 L 63.72'
 R 150.0'
 e Normal Slope
 MDS 25 MPH



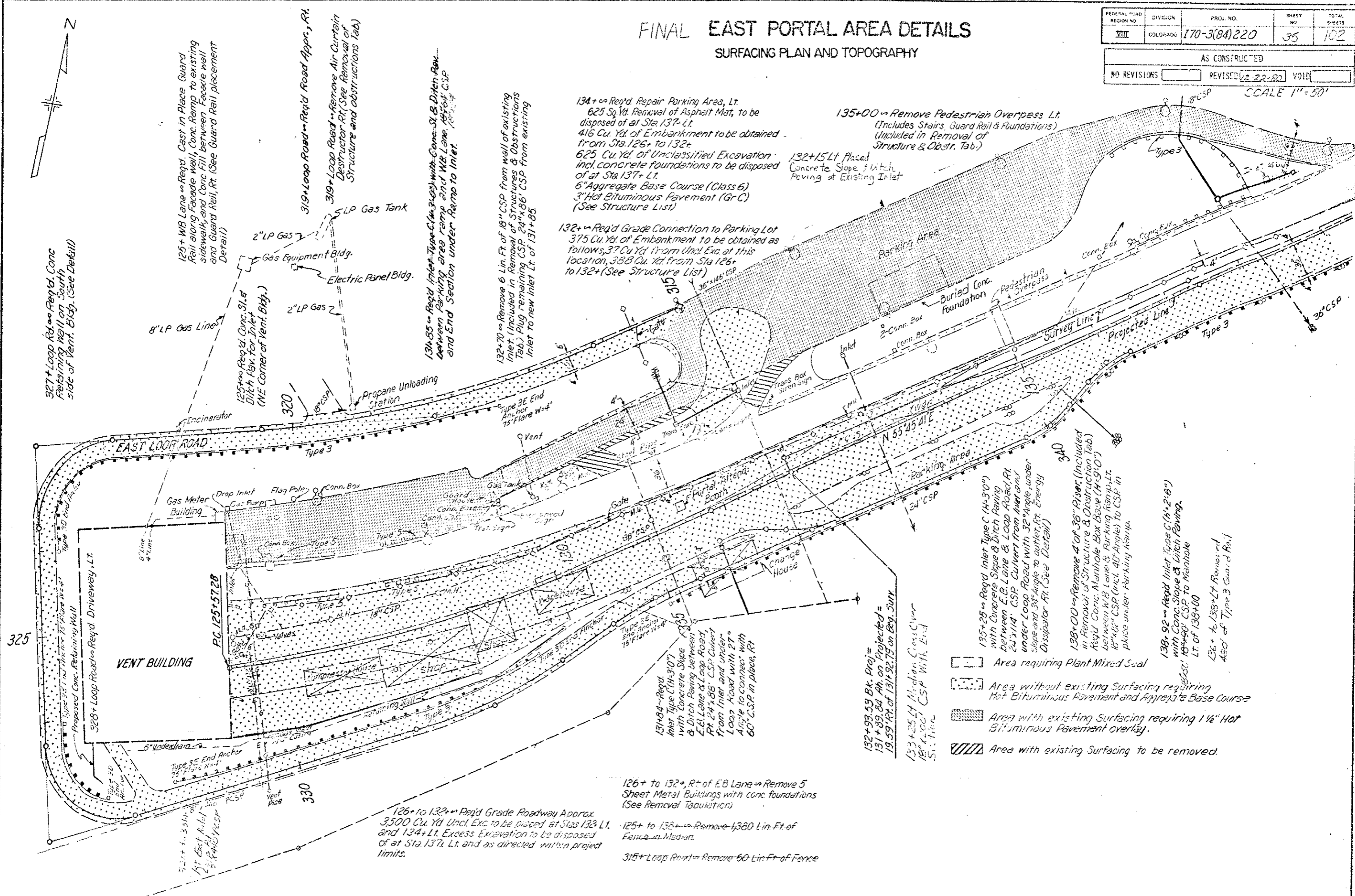
FINAL EAST PORTAL AREA DETAILS

SURFACING PLAN AND TOPOGRAPHY

FEDERAL ROAD REGION NO	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(84)220	35	102

AS CONSTRUCTED		
NO REVISIONS	REVISED 12-22-80	VOID

SCALE 1" = 50'



125+ WB Lane - Reqd. Cast in Place Guard Rail along Facade Wall, Conc. Ramp to existing sidewalk, and Conc. Fill between Facade wall and Guard Rail, Rt. (See Guard Rail placement Detail)

319+ Loop Road - Reqd. Road Approx., Rt.

319+ Loop Road - Remove Air Curtain Destructor Rt. (See Removal of Structure and Obstructions Tab)

LP Gas Tank

2" LP Gas

Gas Equipment Bldg.

Electric Panel Bldg.

2" LP Gas

8" LP Gas Line

125+ Reqd. Conc. Sl. & Ditch Pav. for Inlet (NE Corner of Vent Bldg.)

Propane Unloading Station

18" CSP

320

Incinerator

18" CSP

Type 3E End Anchor 75' Flare W-4

Vent

330

335

340

345

350

355

360

365

370

375

380

385

390

395

400

405

410

415

420

425

430

435

440

445

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835

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845

850

855

860

865

870

875

880

885

890

895

900

905

910

915

920

925

930

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945

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955

960

965

970

975

980

985

990

995

1000

134+ Reqd. Repair Parking Area, Lt.
 625 Sq. Yd. Removal of Asphalt Mat, to be disposed of at Sta. 137+ Lt.
 416 Cu. Yd. of Embankment to be obtained from Sta. 126+ to 132+
 625 Cu. Yd. of Unclassified Excavation incl. concrete foundations to be disposed of at Sta. 137+ Lt.
 6" Aggregate Base Course (Class 6)
 3" Hot Bituminous Pavement (Gr-C)
 (See Structure List)

135+00 - Remove Pedestrian Overpass Lt. (Includes Stairs, Guard Rail & Foundations) (Included in Removal of Structure & Obstr. Tab.)

132+15 Lt. Placed Concrete Slope & Ditch Paving at Existing Inlet

132+ - Reqd. Grade Connection to Parking Lot
 375 Cu. Yd. of Embankment to be obtained as follows, 37 Cu. Yd. from Uncl. Exc. at this location, 338 Cu. Yd. from Sta. 126+ to 132+ (See Structure List)

132+70 - Remove 6 Lin. Ft. of 18" CSP from wall of existing Inlet (Included in Removal of Structures & Obstructions Tab.) Plug remaining CSP 24"x86" CSP from existing Inlet to new Inlet Lt. of 131+85

131+85 - Reqd. Inlet Type C (H=3'0") with Conc. Sl. & Ditch Pav. Between Parking area ramp and WB Lane 187'± CSP and End Section under Ramp to Inlet.

327+ Loop Rd. - Reqd. Conc. Retaining Wall on South side of Vent. Bldg. (See Detail)

EAST LOOP ROAD

VENT BUILDING

PC 125+57.28

325

330

126+ to 132+, Rt. of EB Lane - Remove 5 Sheet Metal Buildings with conc. foundations (See Removal Tabulation)

125+ to 136+ - Remove 1360 Lin. Ft. of Fence in Median.

315+ Loop Road - Remove 60 Lin. Ft. of Fence

132+93.59 Bk. Proj. = 131+89.84 Ah on Projected = 19.59 Rt. of 131+92.75 on Beg. Surv.

133+25 H Median Cross Over 18"x60" CSP with End Section

135+25 - Reqd. Inlet Type C (H=3'0") with Concrete Slope & Ditch Paving between EB Lane & Loop Road Rt. 24"x86" CSP Culvert from Inlet and under Loop Road with 32° angle under slope and 30° angle to outlet Ft. Energy Dissipator Ft. (See Detail)

138+00 - Remove 4 of 36" Risers (Included in Removal of Structure & Obstruction Tab.) Reqd. Conc. Manhole Box Base (H=9'10") between WB Lane & Parking Ramp Lt. 18"x42" CSP (Incl. 40° Angle) to CSP in place under Parking Ramp.

138+92 - Reqd. Inlet Type C (H=2'6") with Conc. Slope & Ditch Paving. 18"x42" CSP to Manhole Lt. of 138+00

136+ to 133+ Lt. Remove end 450' of Type 3 Guard Rail

- [Dotted Pattern] Area requiring Plant Mixed Seal
- [Stippled Pattern] Area without existing Surfacing requiring Hot Bituminous Pavement and Aggregate Base Course
- [Cross-hatched Pattern] Area with existing Surfacing requiring 1 1/2" Hot Bituminous Pavement overlay.
- [Diagonal Lines] Area with existing Surfacing to be removed.

FINAL EAST PORTAL AREA DETAILS

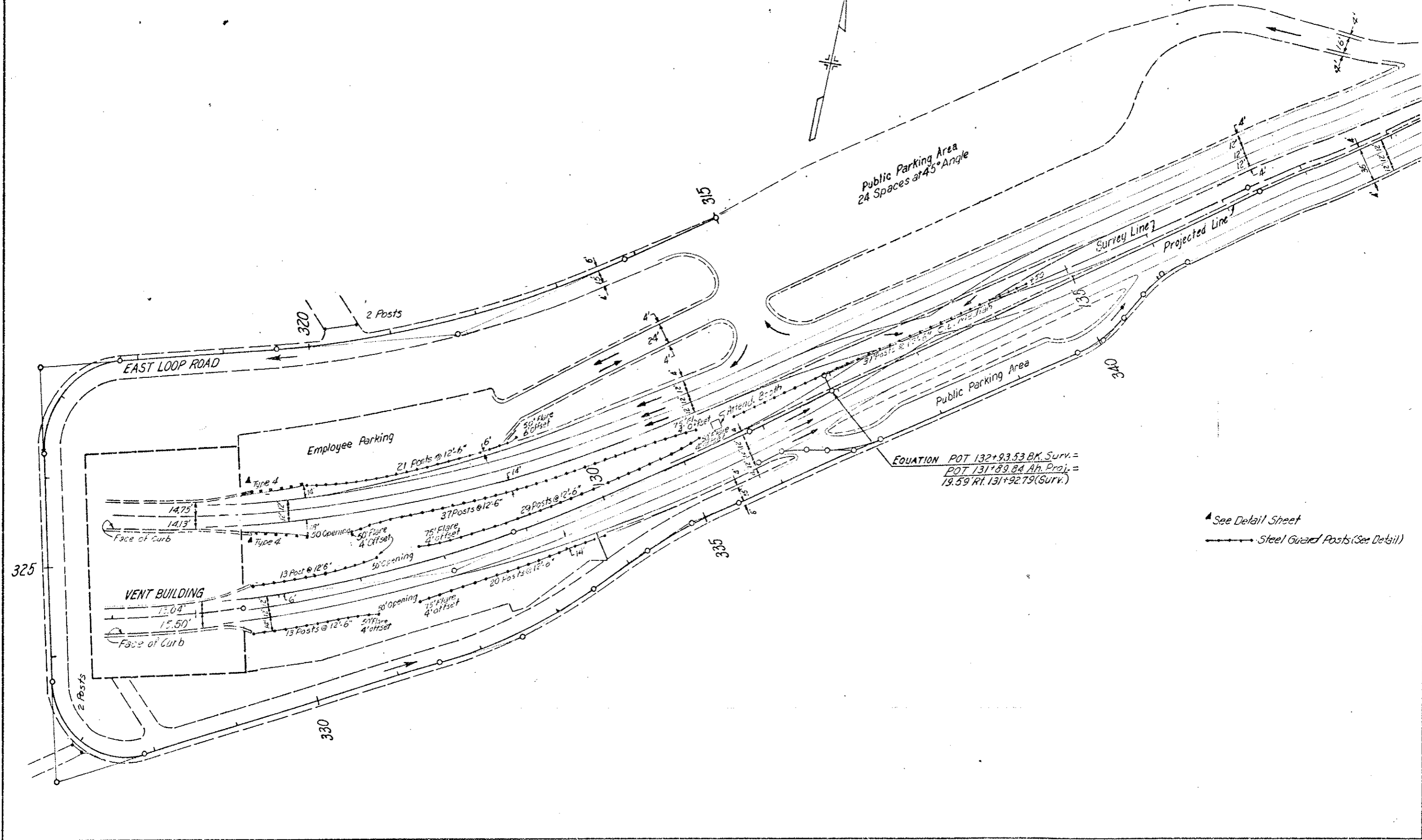
TRAFFIC CIRCULATION

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(9A)220	36	12

AS CONSTRUCTED

NO REVISIONS 12.22-22 REVISED VOID

SCALE 1"=50'



EQUATION POT 132+93.53 BK. Surv. =
 POT 131+89.84 Ah. Proj. =
 19.59' Rt. 131+92.79(Surv.)

▲ See Detail Sheet
 → Steel Guard Posts (See Detail)

ARAPAHOE NATIONAL FOREST

N.W. 1/4, Sec. 25
T. 4S., R. 77W.

1/4 Sec. Line

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	I 70-3(84) 220	37	102

AS CONSTRUCTED		
NO REVISIONS	222-20	REVISED
		VOID

$\Delta = 28^{\circ}57'14''$
 $T_s = 520.4'$
 $\Delta c = 16^{\circ}57'$
 $D_c = 4^{\circ}00'$
 $L_c = 423.8'$
 $R_c = 1432.5'$
 $e = 0.06011'$
 $S.S.D = 785'$
 $M.D.S. = 50MPH$

$\theta_s = 6^{\circ}00'$
 $L_s = 300.0'$
 $L.T. = 200.1'$
 $S.T. = 100.1'$

$\theta_s = 6^{\circ}00'$
 $L_s = 300.0'$
 $L.T. = 200.1'$
 $S.T. = 100.1'$

NOTE: Section Lines shown are approximate.
 Area has not been Surveyed.

STA. 351+31.6 BEGIN I 70-3(84) 220 =
 STA. 351+31.6 BEGIN I 70-3(81) 220 =
 STA. 351+31.6 on I 70-3(67) 212

S.W. 1/4, Sec. 25
 T. 4S., R. 77W.

S.E. 1/4, Sec. 25
 T. 4S., R. 77W.

330

335

340

345

350

355

360

330

335

340

345

350

355

360

To Silverthorne

N. 86° 45' 34" E

N. 51° 28' 34" E

C.S. 330+54.8

S.T. 333+54.8

T.S. 349+51.6

S.C. 352+51.6

C.S. 356+75.4

S.T. 359+75.4

S.T. 360

24' W.B. RDWY.
 24' E.B. RDWY.

10' MEDIAN WIDTH WITH 5' SHOULDERS

Top of Existing Berm
 Median Transition

Begin Guard Rail - Type 4 (Precast-Portable)

10' MEDIAN WIDTH WITH 5' SHOULDERS

+6.10% E.B.

+6.12% E.B.

+6.14% E.B.

P.I. 10,682.33
 No V.C.

P.I. 10,726.11
 No V.C.

10730
 10720
 10710
 10700
 10690
 10680

PLAN

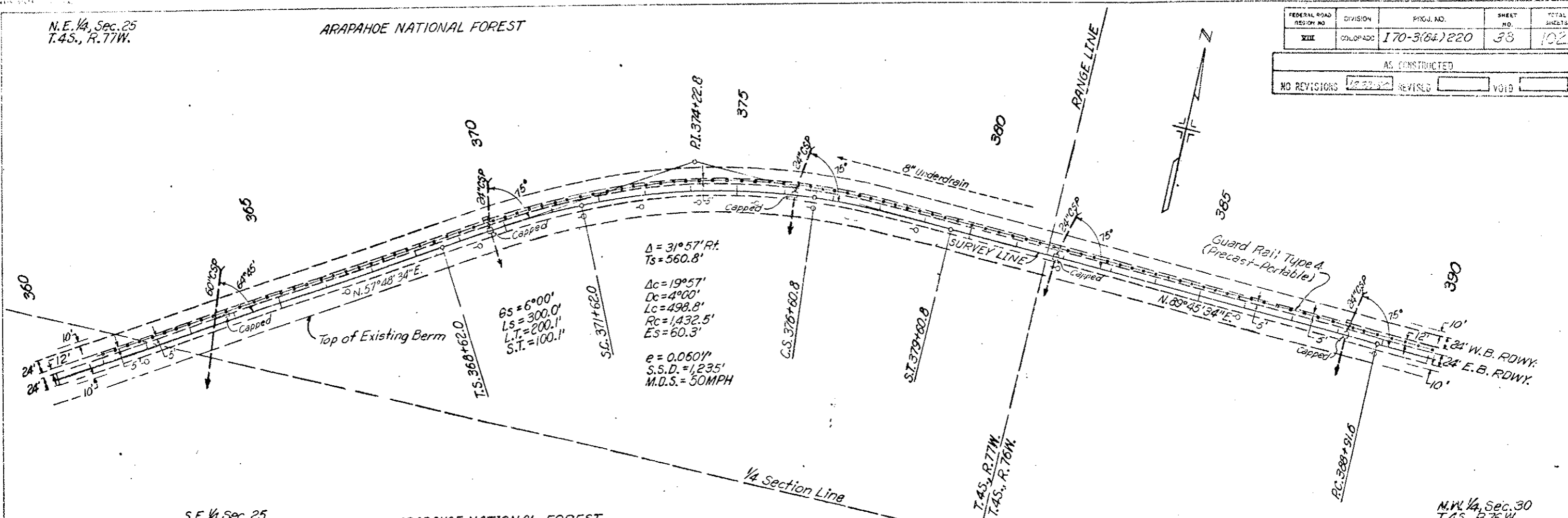
PROFILE

N.E. 1/4, Sec. 25
T.4S., R.77W.

ARAPAHOE NATIONAL FOREST

FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(64)220	38	102

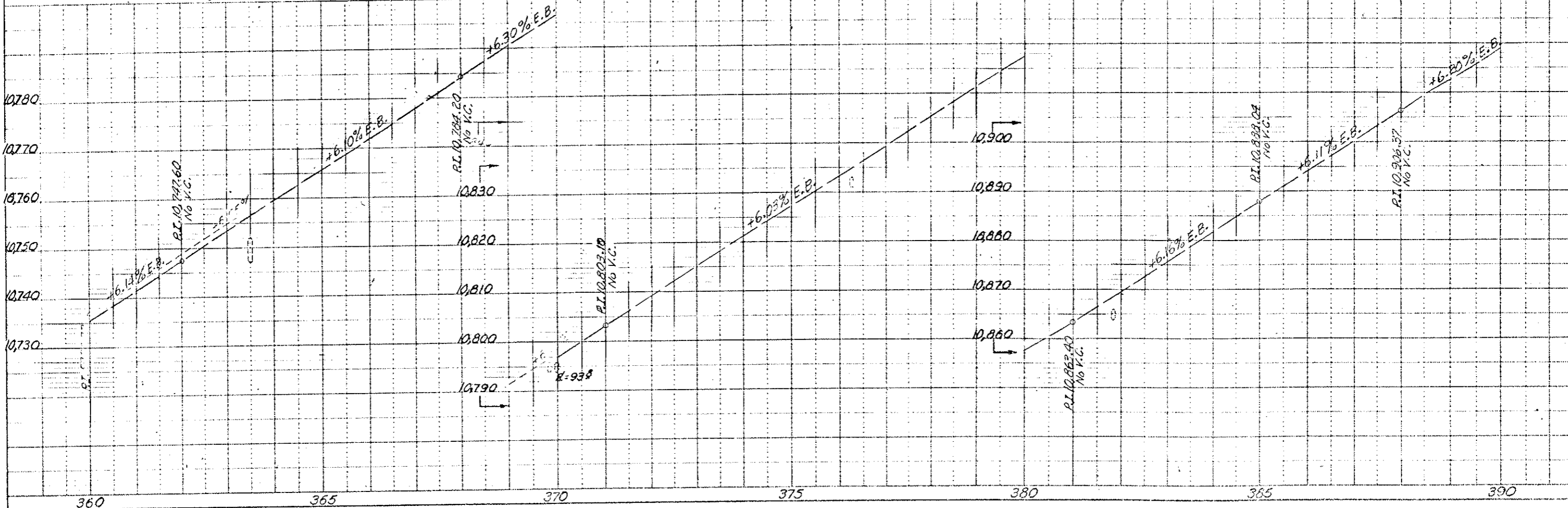
AS CONSTRUCTED	
NO REVISIONS	REVISIONS
	VOID



S.E. 1/4, Sec. 25
T.4S., R.77W.

ARAPAHOE NATIONAL FOREST

N.W. 1/4, Sec. 30
T.4S., R.76W.



PLAN
NOTES

PROFILE
NOTES

N.W. 1/4, Sec. 30
T. 45, R. 76 W.

ARAPAHOE NATIONAL FOREST

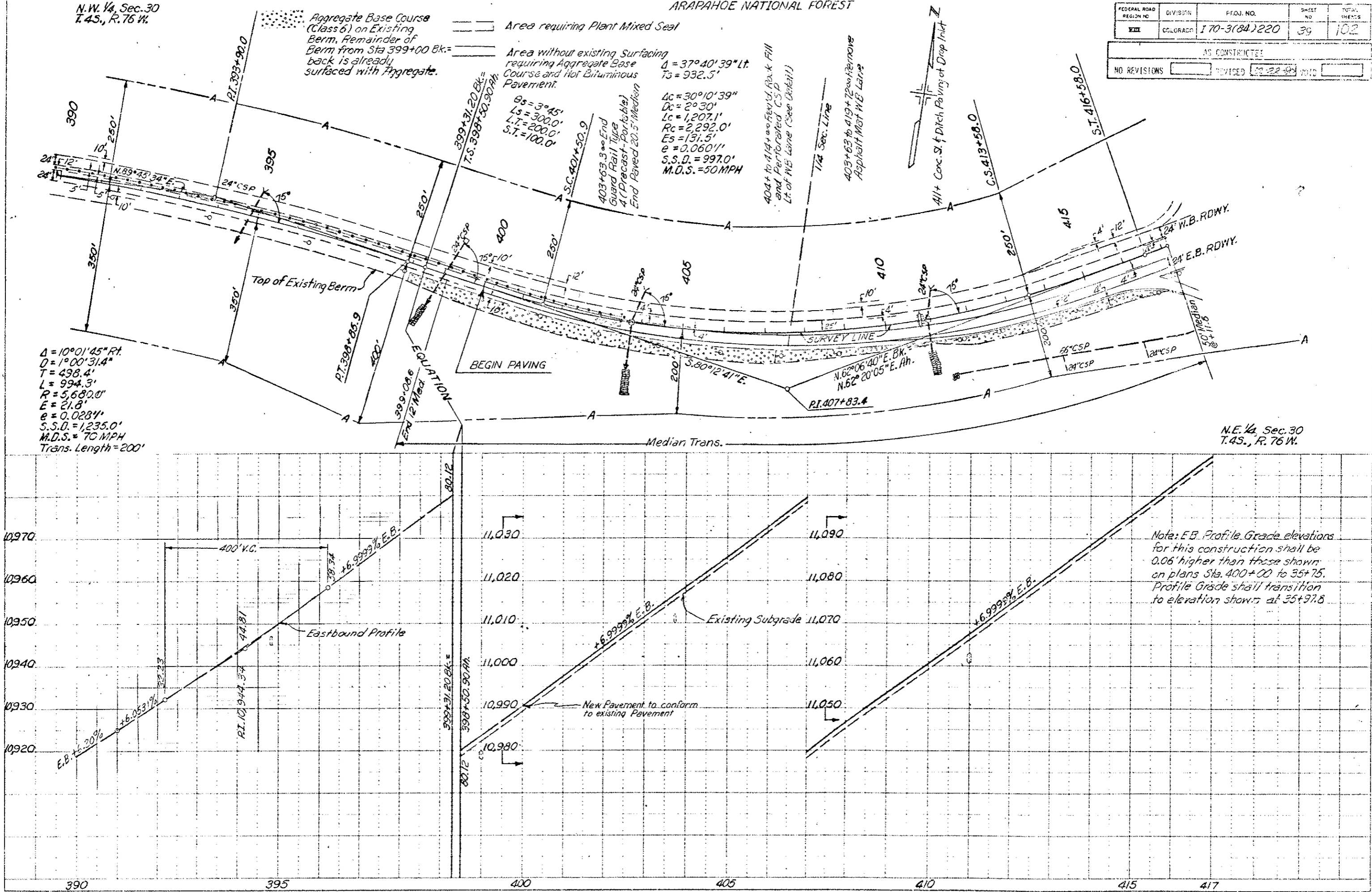
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
101	COLORADO	170-3(84)220	39	102

AS CONSTRUCTED

NO REVISIONS REVISED VOID

PLAN

PROFILE



FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
7111	COLORADO	I70-3(84)220	40	102

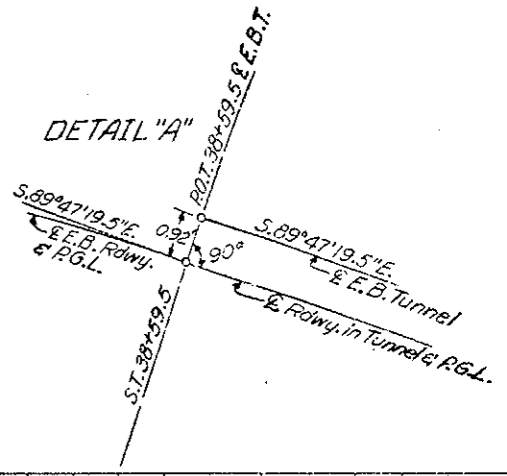
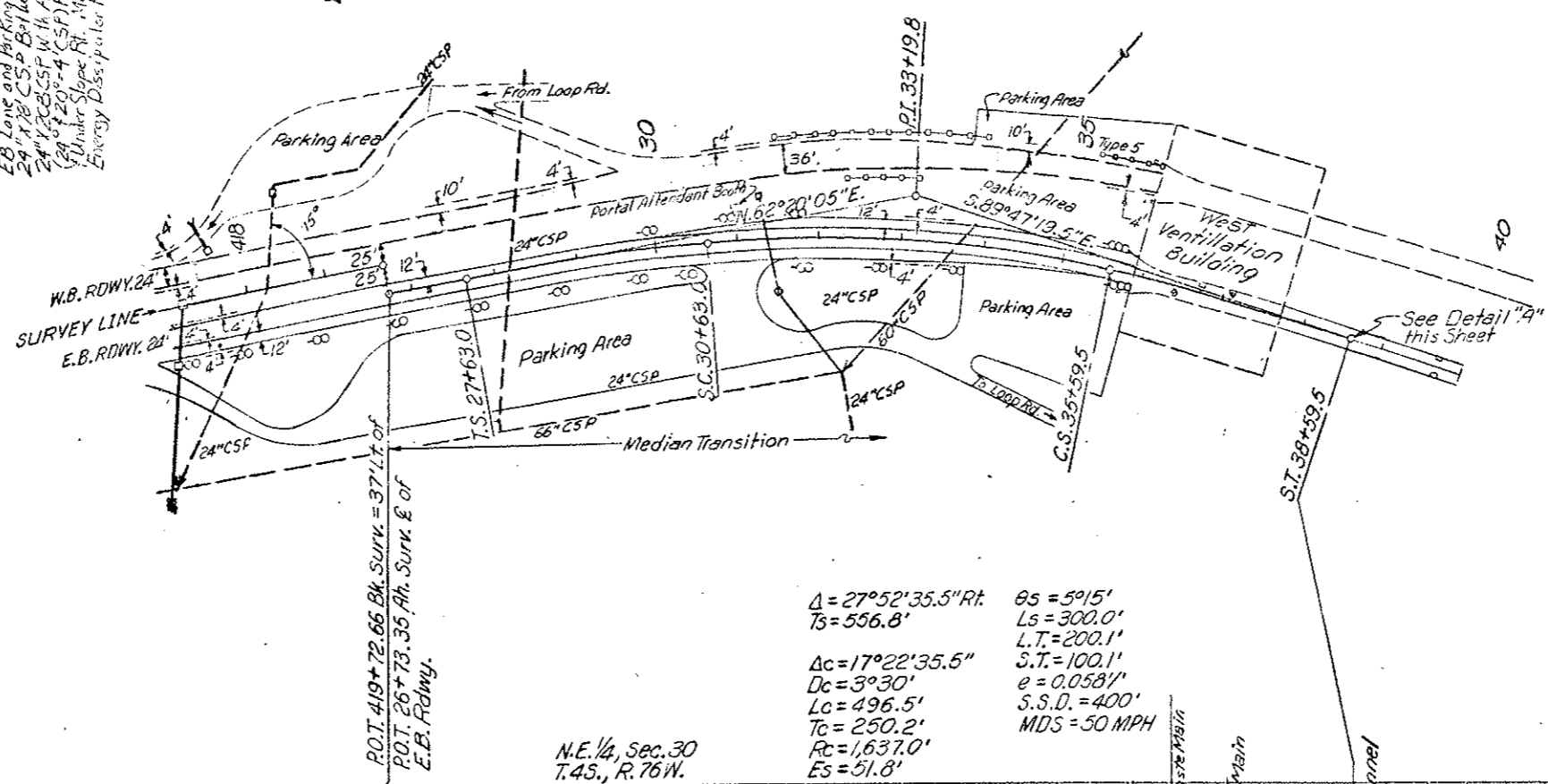
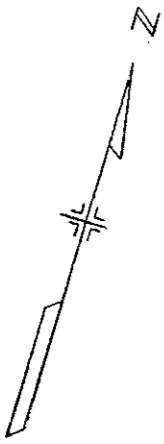
AS CONSTRUCTED

NO REVISIONS REVISED VOID

47422 Inlets Type C with Conc Slope & Ditch, Inletment (H=316) In Median (H=50) Between E.B. Lane and Parking Area, Range 24° 12' 20" CSP Between Inlets 24° 12' 20" CSP From 5' Inlet Under Slope Rt. Median Dike & Energy Dissipator Rt.

ARAPAHOE NATIONAL FOREST

FOR ADDITIONAL INFORMATION ON SURFACING, TOPOGRAPHY, AND DRAINAGE SEE WEST PORTAL AREA DETAILS

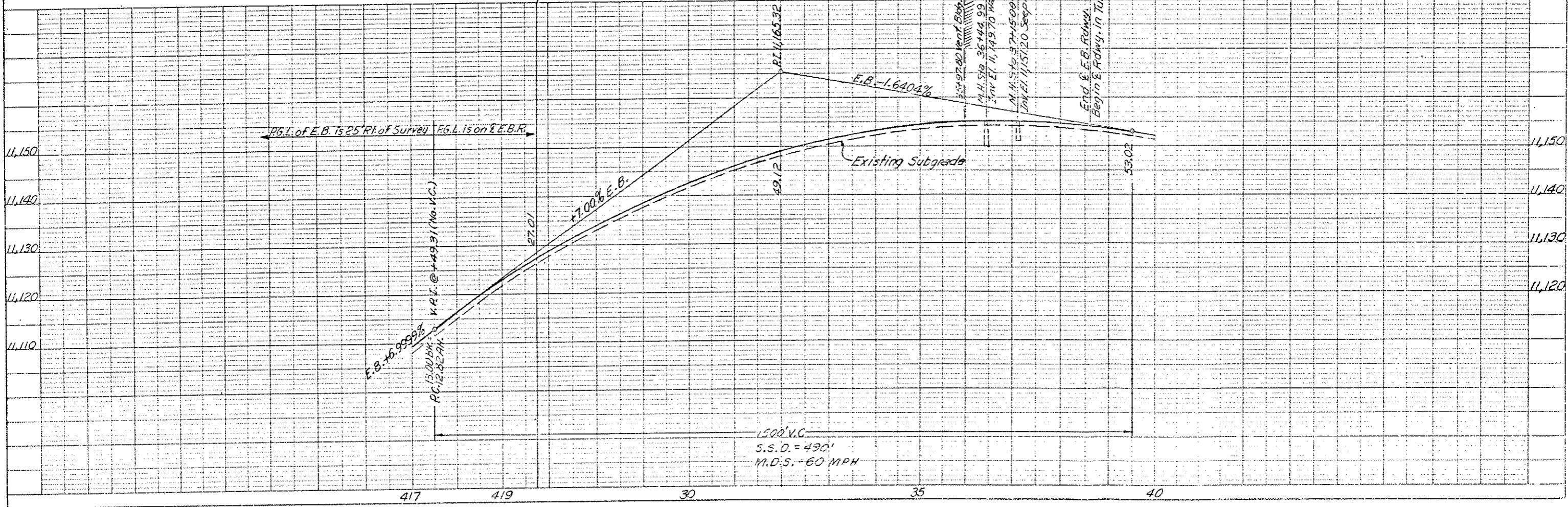


$\Delta = 27^{\circ}52'35.5''$ Rt. $\theta_s = 5^{\circ}15'$
 $T_s = 556.8'$ $L_s = 300.0'$
 $L.T. = 200.1'$
 $\Delta c = 17^{\circ}22'35.5''$ $S.T. = 100.1'$
 $D_c = 3^{\circ}30'$ $e = 0.0581'$
 $L_c = 496.5'$ $S.S.D. = 400'$
 $T_c = 250.2'$ $M.D.S. = 50$ MPH
 $R_c = 1,637.0'$
 $E_s = 51.8'$

N.E. 1/4, Sec. 30
T. 4S., R. 76 W.

PLAN
NOTE BOOK
No.

PROFILE
NOTE BOOK
No.

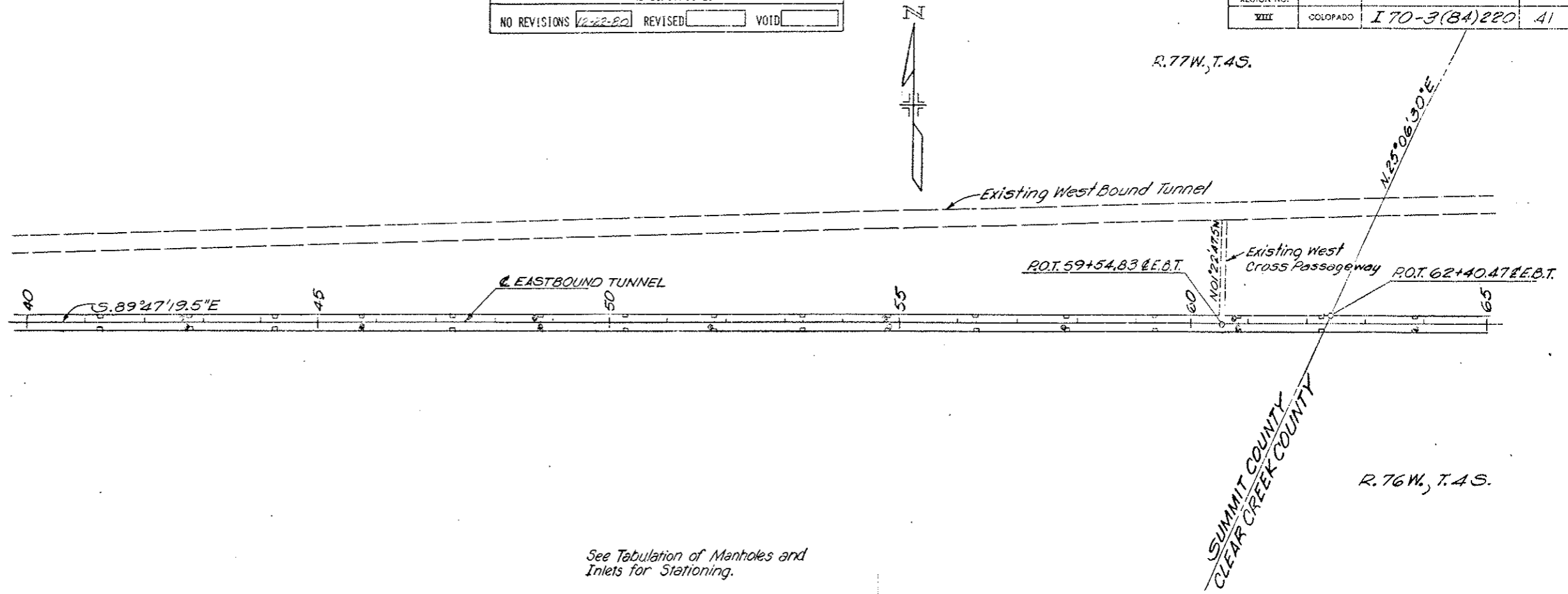


PLAN	DESIGNED	DATE
	NOTED	
BY	BY	
	DATE	
NO.	NO.	
	DATE	

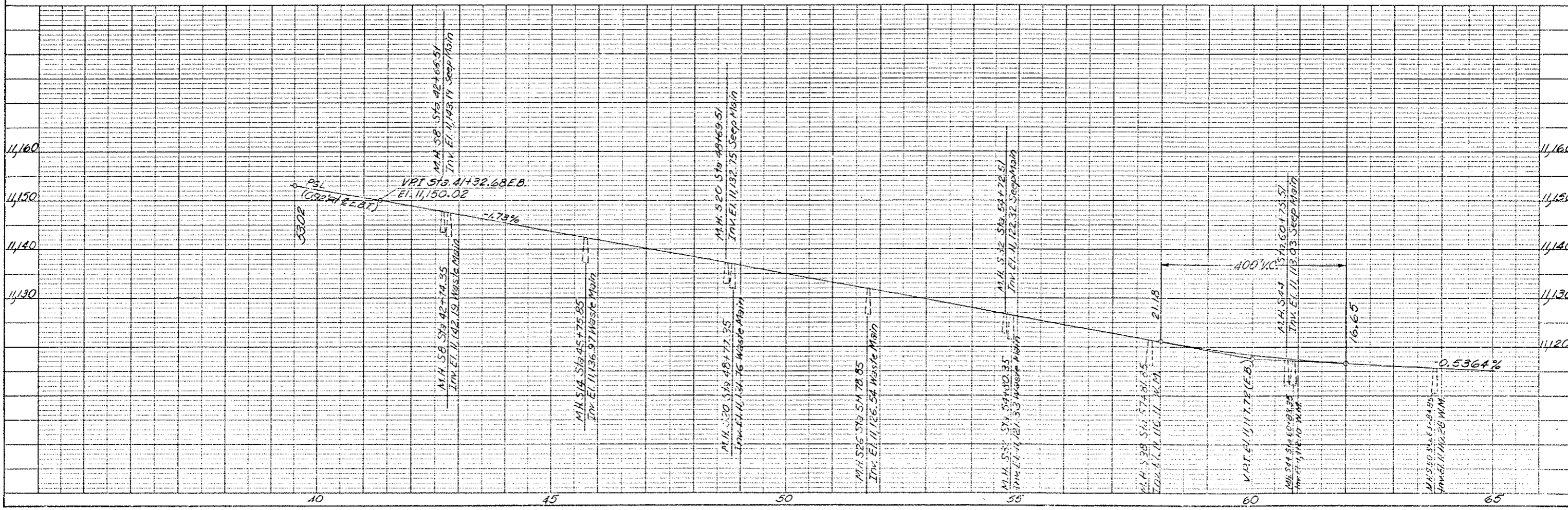
PROFILE	DESIGNED	DATE
	NOTED	
BY	BY	
	DATE	
NO.	NO.	
	DATE	

AS CONSTRUCTED
 NO REVISIONS REVISED VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.
VIII	COLOPADO	I 70-3(84)220	41

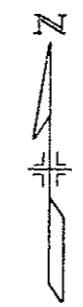


See Tabulation of Manholes and Inlets for Stationing.

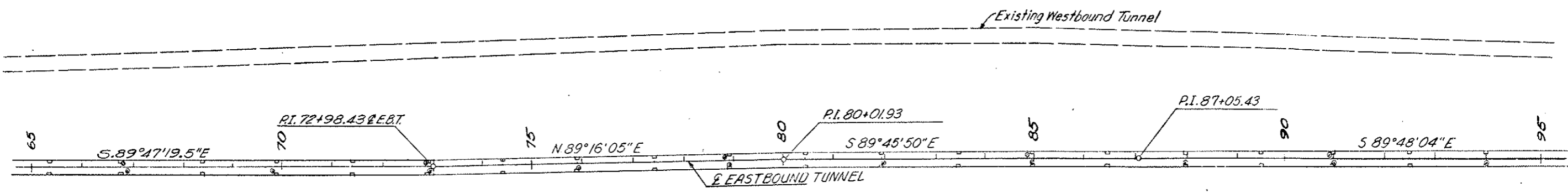


FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.
VIII	COLORADO	170-3(84)220	42

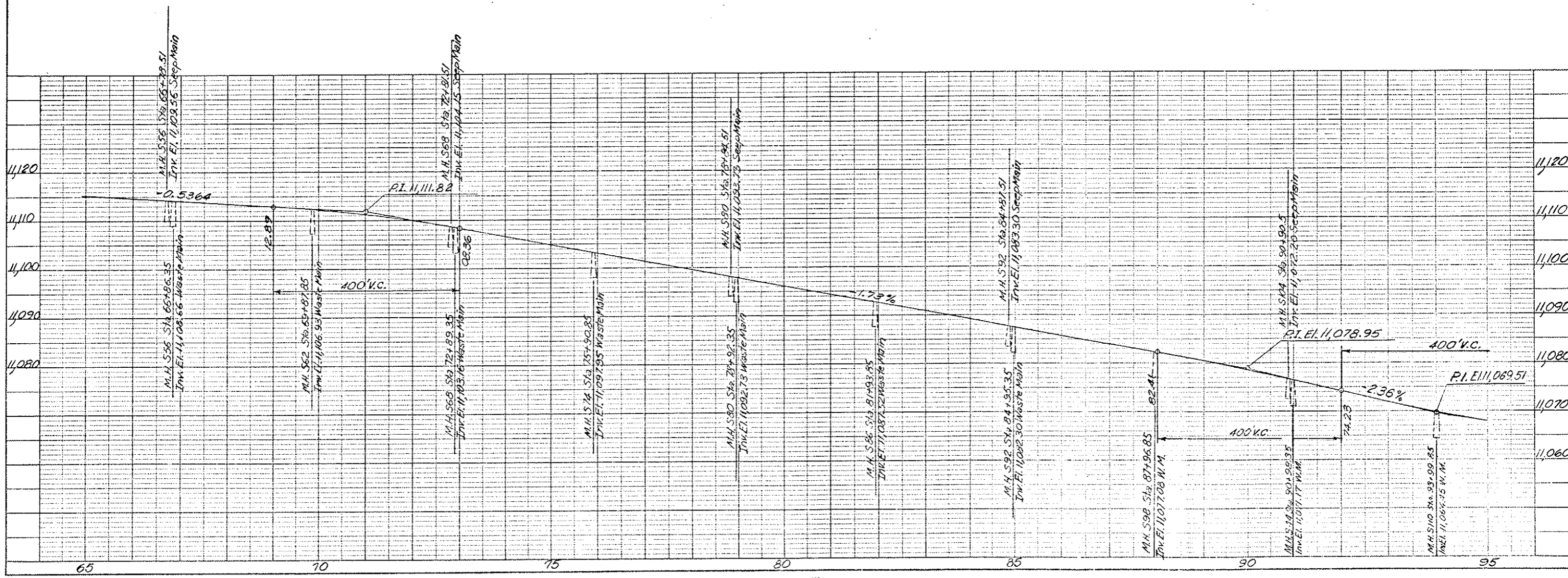
AS CONSTRUCTED		
NO REVISIONS	2-22-90	REVISED
		VOTD



DATE	BY
PLAN	DATE
NO.	



DATE	BY
PROFILE	DATE
NO.	

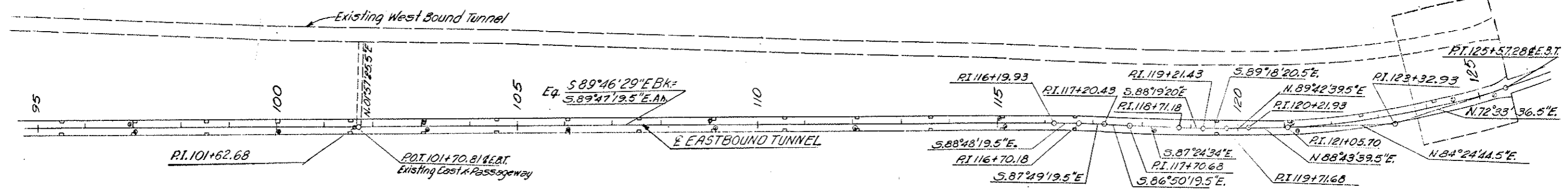


FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.
XIII	COLORADO	I 70-3(84) 220	43

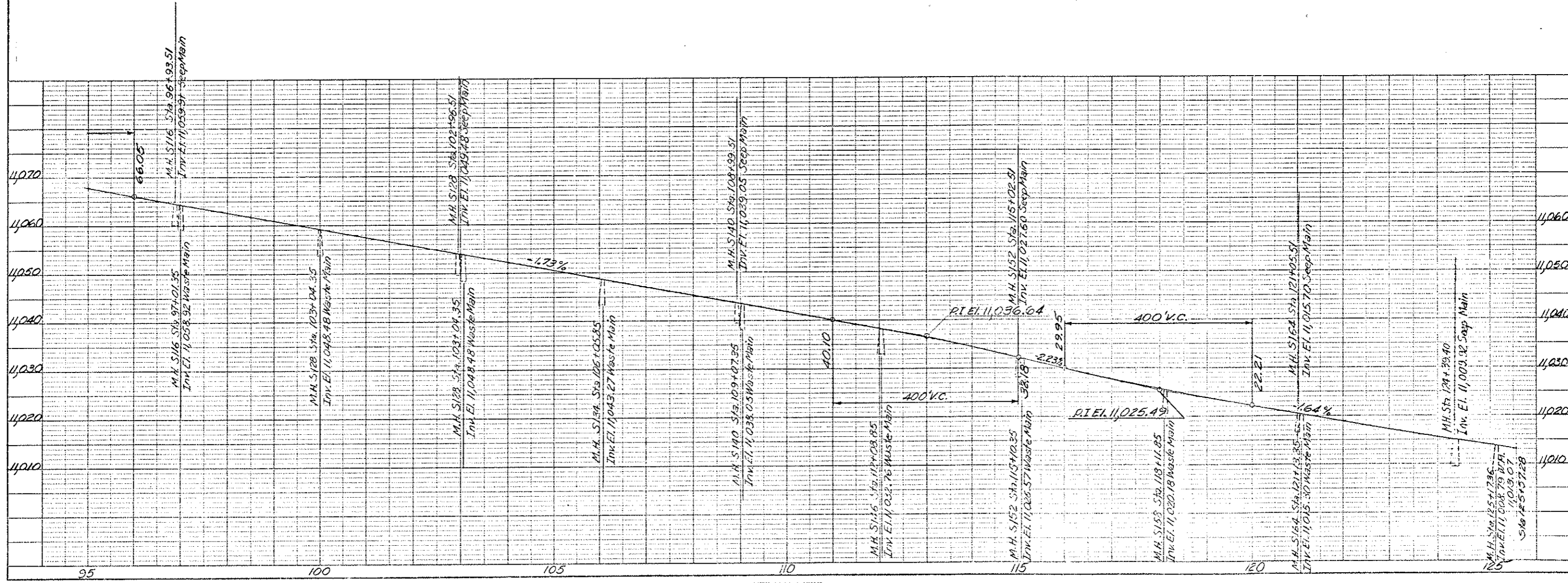
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID
12-22-80		



PLAN	DATE
BY	
DATE	
BY	
DATE	
BY	
DATE	
BY	
DATE	



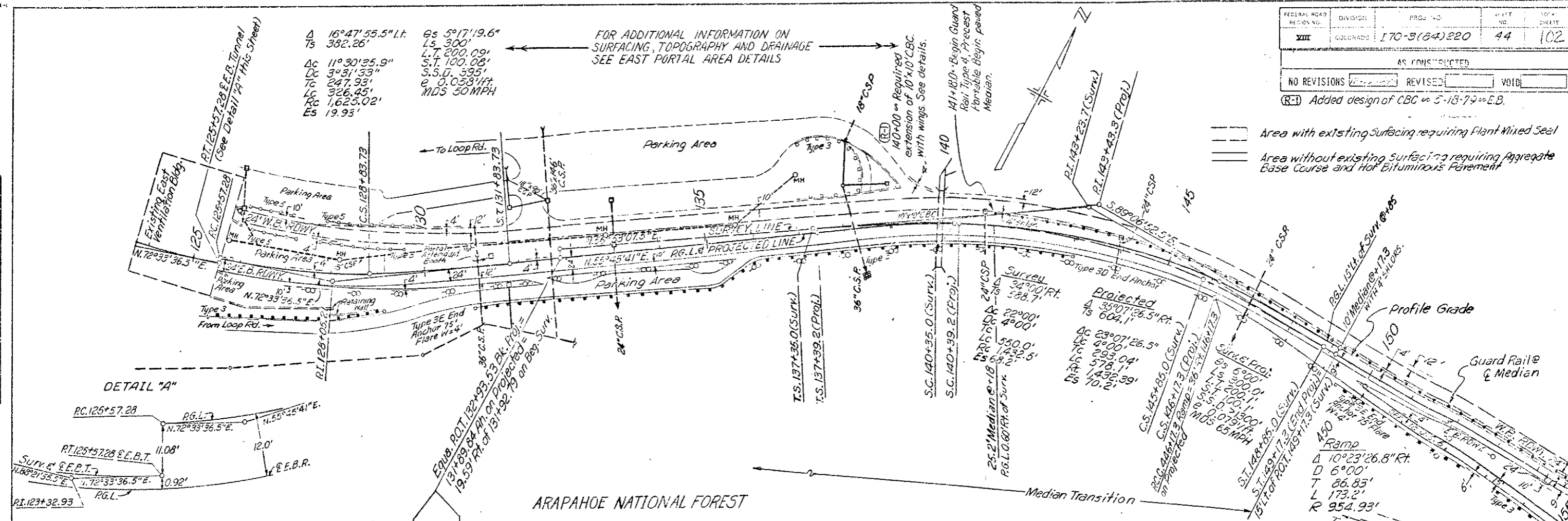
PROFILE	DATE
BY	
DATE	
BY	
DATE	
BY	
DATE	
BY	
DATE	



FEDERAL ROAD DISTRICT NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	170-3(84)220	44	102
AS CONSTRUCTED				
NO REVISIONS	REVISED	VOID		
(R-1) Added design of CBC on 5-18-79 to E.B.				

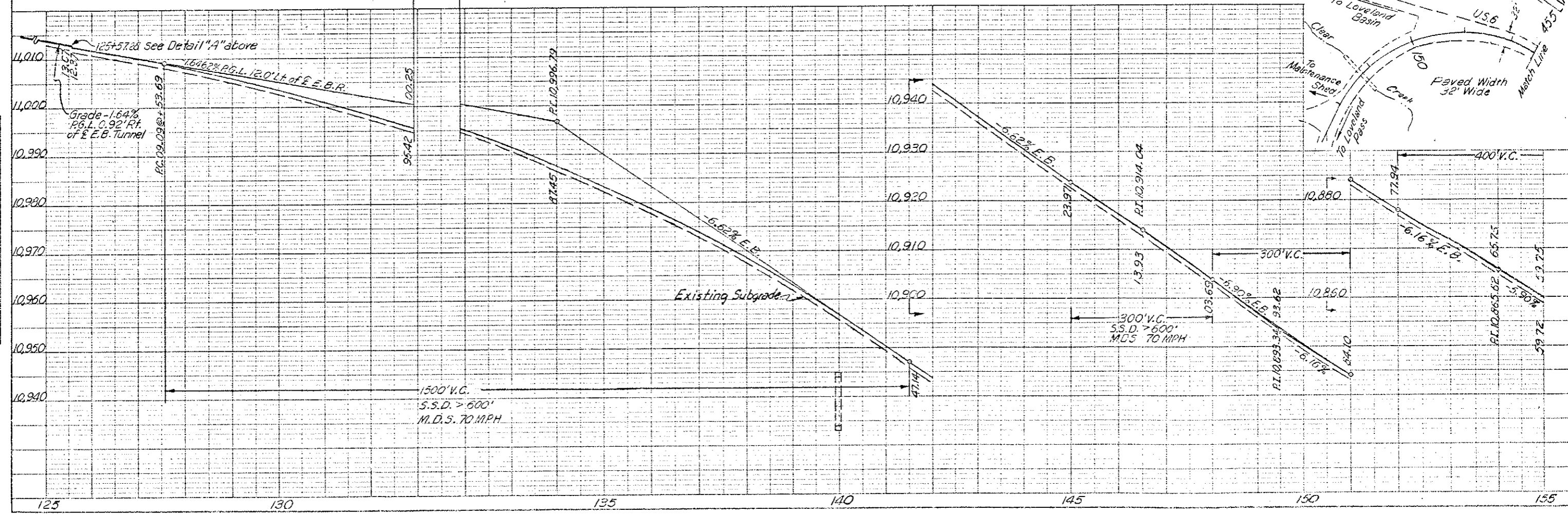
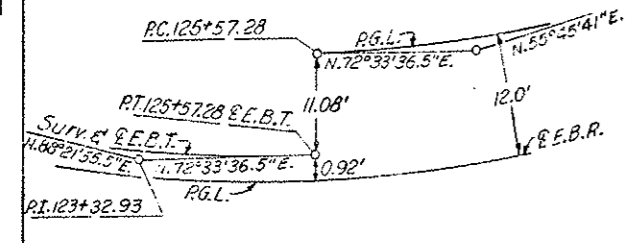
Δ 16°47'55.5" Lt. Θ s 5°17'19.6"
 T_s 382.26' L_s 300'
 Δ c 11°30'35.9" L_s 200.09'
 D_c 3°31'33" $S.T.$ 100.08'
 T_c 247.93' $S.S.D.$ 595'
 L_c 326.45' e 0.038'/ft.
 R_c 1,625.02' MDS 50 MPH
 E_s 19.93'

FOR ADDITIONAL INFORMATION ON SURFACING, TOPOGRAPHY AND DRAINAGE SEE EAST PORTAL AREA DETAILS



[Hatched Area] Area with existing Surfacing requiring Plant Mixed Seal
 [Solid Area] Area without existing Surfacing requiring Aggregate Base Course and Hot Bituminous Pavement

DETAIL "A"



PLAN

DATE	
BY	
CHECKED	
APPROVED	
NOTED	
REVISIONS	

PROFILE

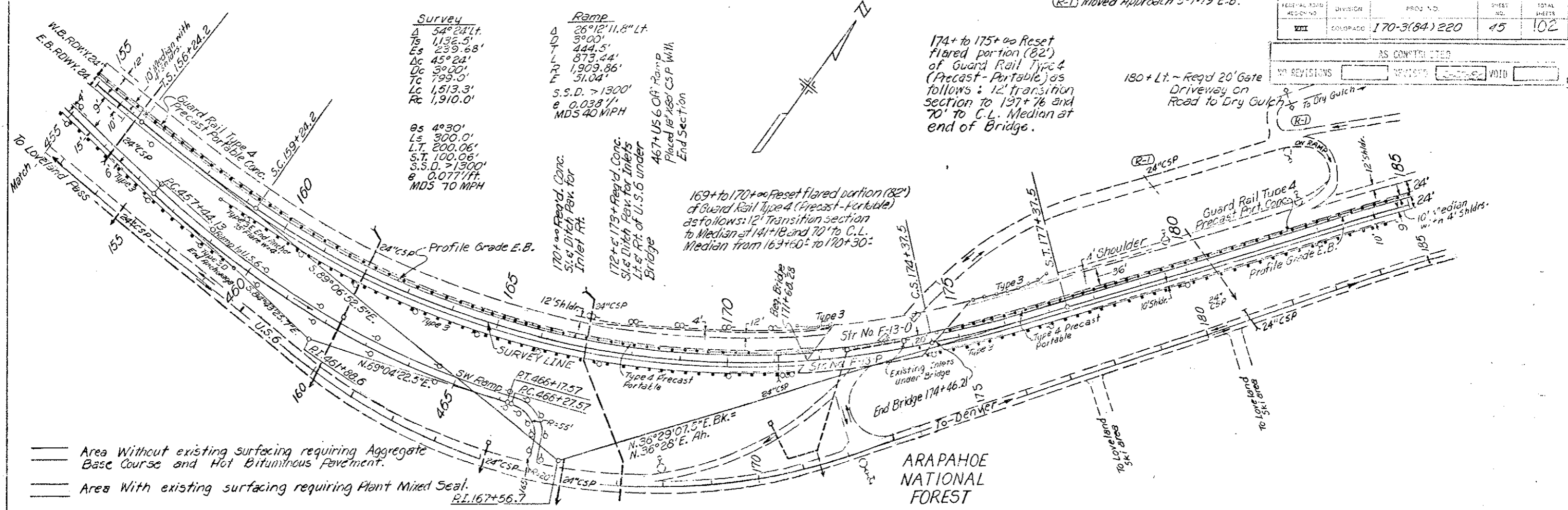
DATE	
BY	
CHECKED	
APPROVED	
NOTED	
REVISIONS	

(R-1) Moved Approach 5-7-79 E.B.

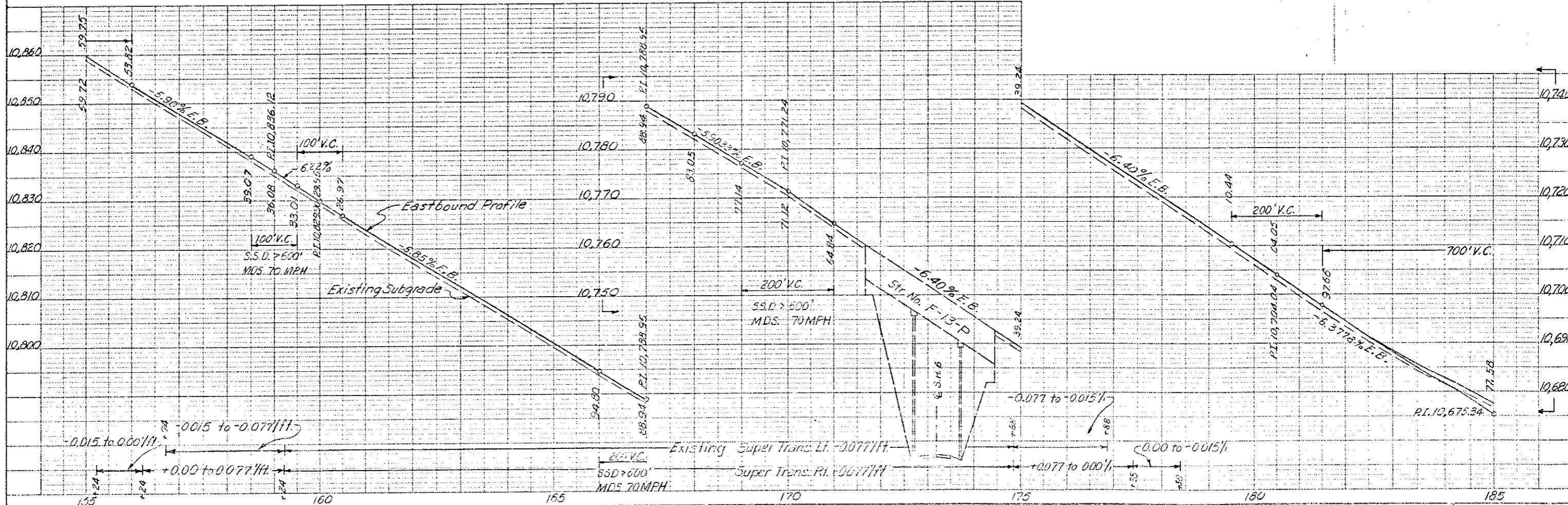
FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(84) 220	45	102

AS CONTRACTED
NO REVISIONS
VOID

PLAN
STARTING POINT
NOTED
ALIGNING CENTER
BY OR BY DERIVED
No.



PROFILE
STARTING POINT
NOTED
ALIGNING CENTER
BY OR BY DERIVED
No.



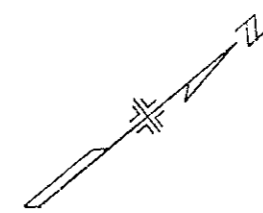
Note: Transition Eastbound Lane with a curve whose P.I. is 15' Lt. of Survey P.O.T. 196+39.3 curve is same as Survey P.I. 201+98.2

FEDERAL AID REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XII	COLORADO	170-3(84)220	46	102

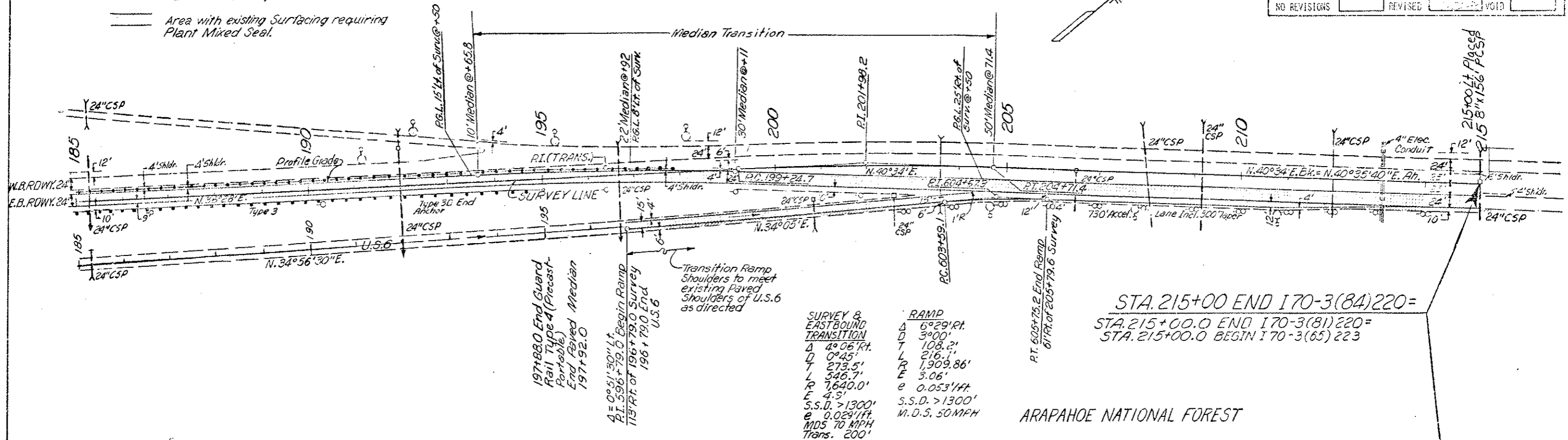
AS CONSTRUCTED
 NO REVISIONS [] REVISED [] VOID []

[Hatched Area] Area with existing Surfacing requiring 3" Hot Bituminous Pavement overlay.

[Solid Line] Area with existing Surfacing requiring Plant Mixed Seal.

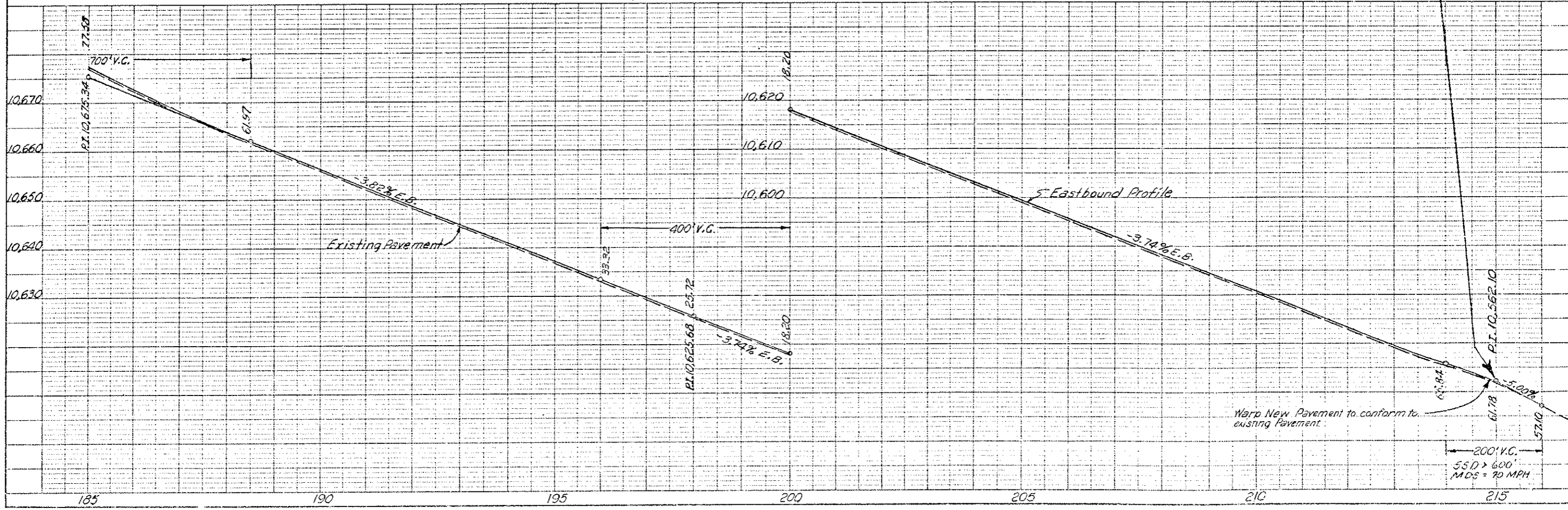


PLAN	DATE
NO. 1	
NO. 2	
NO. 3	
NO. 4	
NO. 5	
NO. 6	
NO. 7	
NO. 8	
NO. 9	
NO. 10	



STA. 215+00 END I 70-3(84)220=
 STA. 215+00.0 END I 70-3(81)220=
 STA. 215+00.0 BEGIN I 70-3(65)223

PROFILE	DATE
NO. 1	
NO. 2	
NO. 3	
NO. 4	
NO. 5	
NO. 6	
NO. 7	
NO. 8	
NO. 9	
NO. 10	

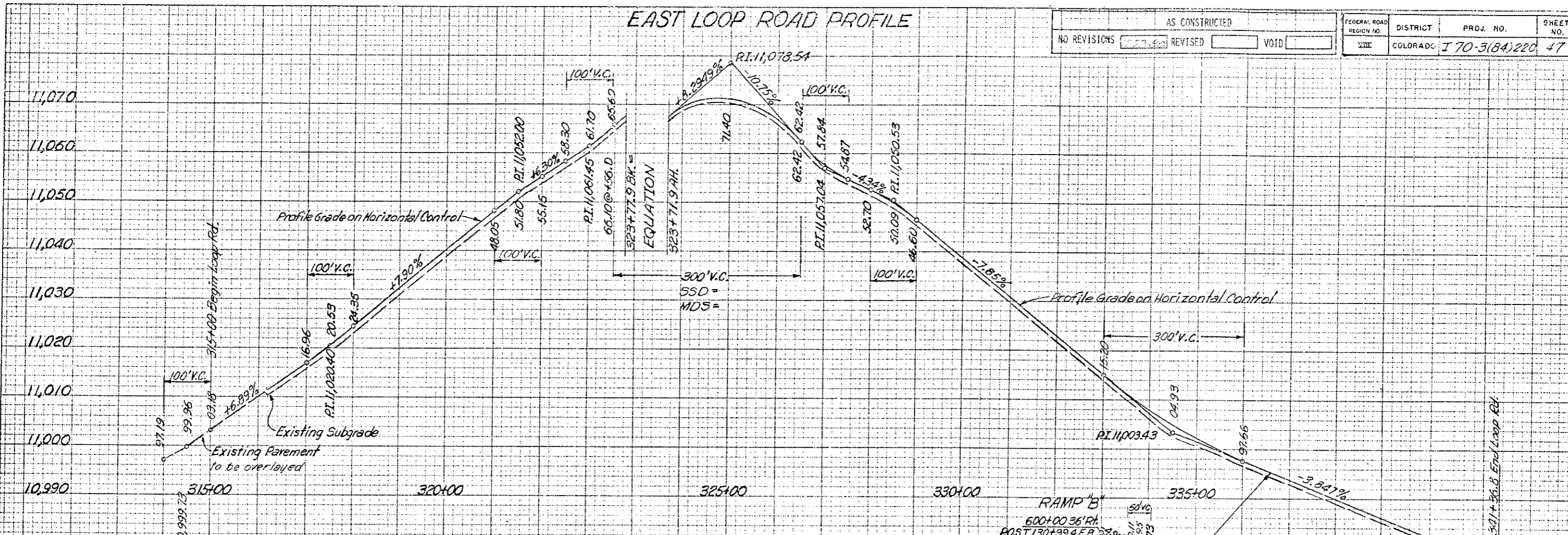


EAST LOOP ROAD PROFILE

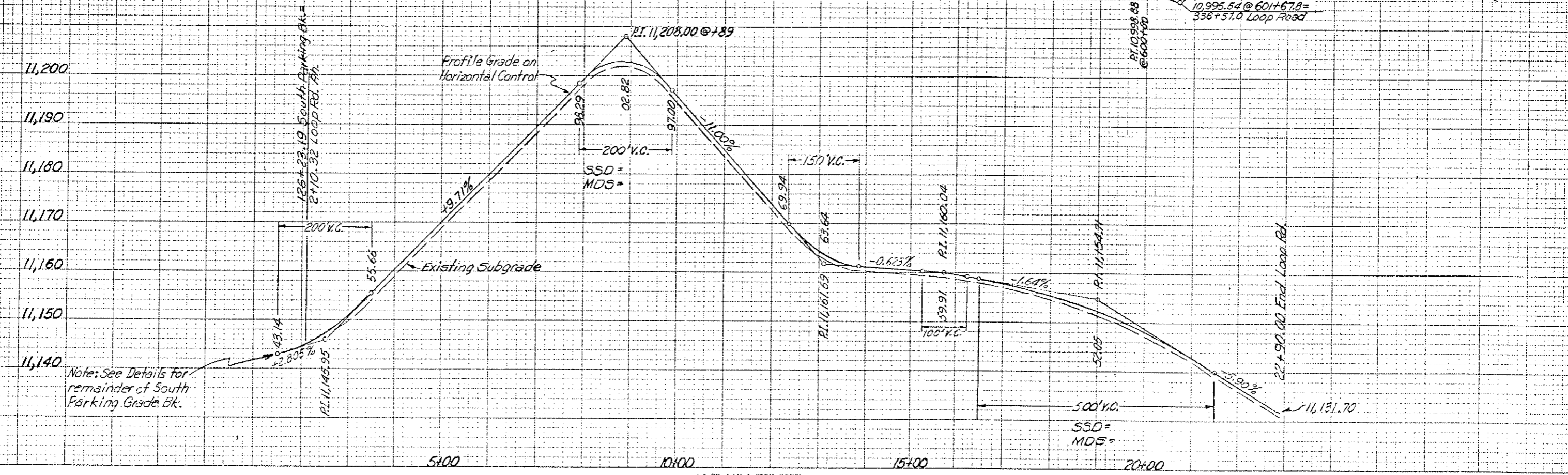
AS CONSTRUCTED
 NO REVISIONS REVISED VOID

FEDERAL ROAD REGION NO.	DISTRICT	PROJ. NO.	SHEET NO.
VIII	COLORADO	I 70-3(84)220	47

DATE: _____
 BY: _____
 ORIGINAL SURVEY PLOTTED: _____
 SURVEY BOOK NO. _____
 NOTE BOOK NO. _____
 AREAS CHECKED: _____
 FINAL SURVEY NOTE BOOK NO. _____
 TEMPLATE NO. _____
 PLEASE CHECKED: _____



WEST LOOP ROAD PROFILE



Note: See Details for remainder of South Parking Grade Bk.

PROFILES OF SOUTH PARKING AREA AT WEST PORTAL

AS CONSTRUCTED
 NO REVISIONS REVISED VOID

FEDERAL ROAD REGION NO.	DISTRICT	PROJ. NO.	SHEET NO.
XIII	COLORADO	170-31341220	48

FINAL SURVEY	DATE
SURVEY	BY
NOTE BOOK NO.	
PLATE	
TEMPERATURE	
AREAS CHECKED	

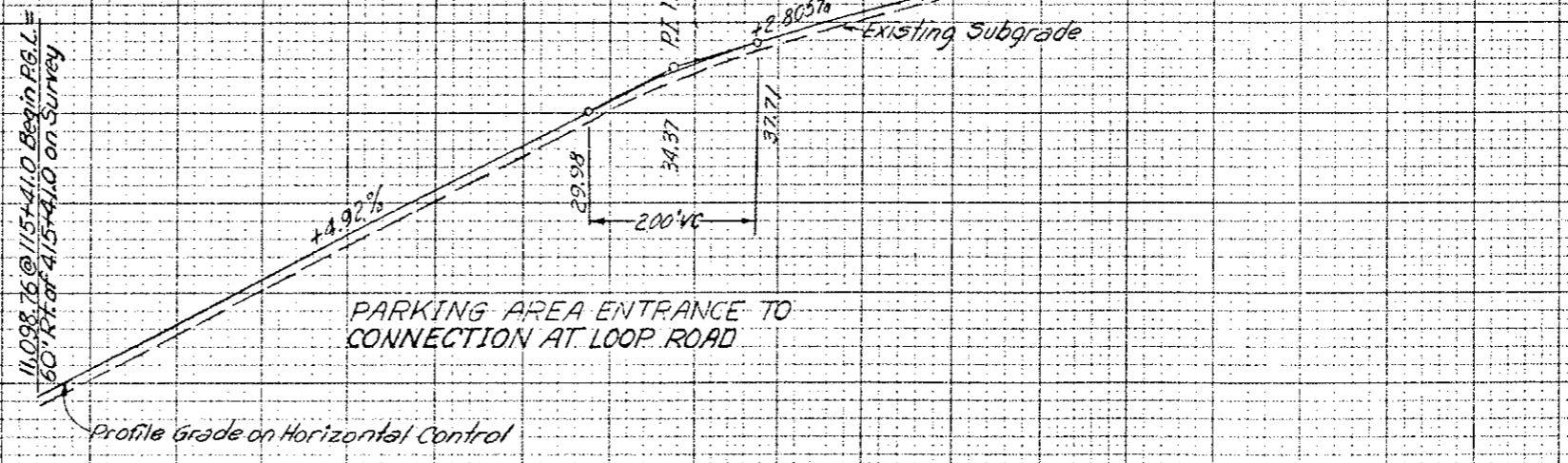
ORIGINAL SURVEY	DATE
SURVEY	BY
NOTE BOOK NO.	
PLATE	
TEMPERATURE	
AREAS CHECKED	

11,140
 11,130
 11,120
 11,110
 11,100
 11,090

115+00

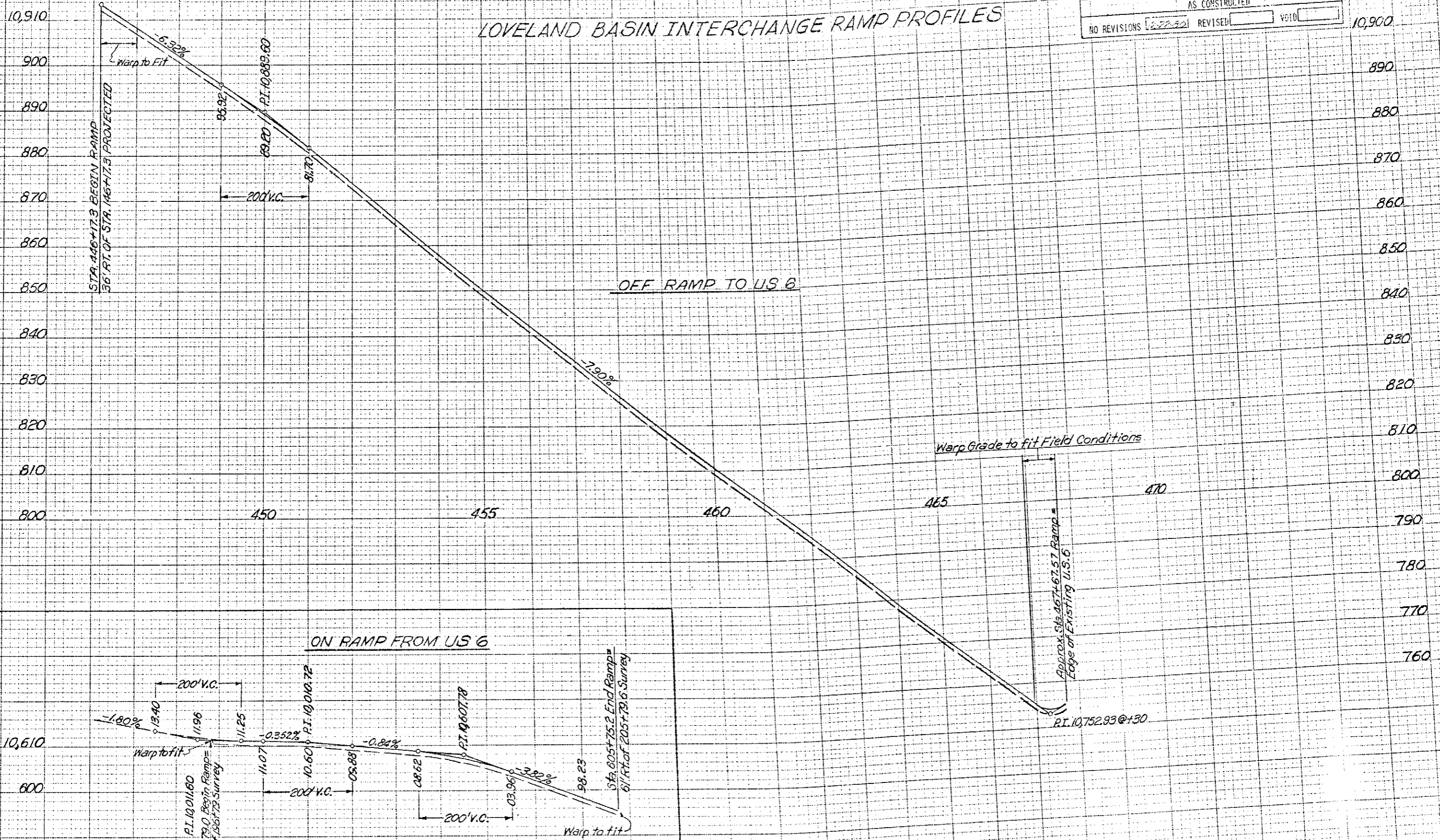
120+00

125+00



AS CONSTRUCTED
 NO REVISIONS REVISED VGRID

LOVELAND BASIN INTERCHANGE RAMP PROFILES



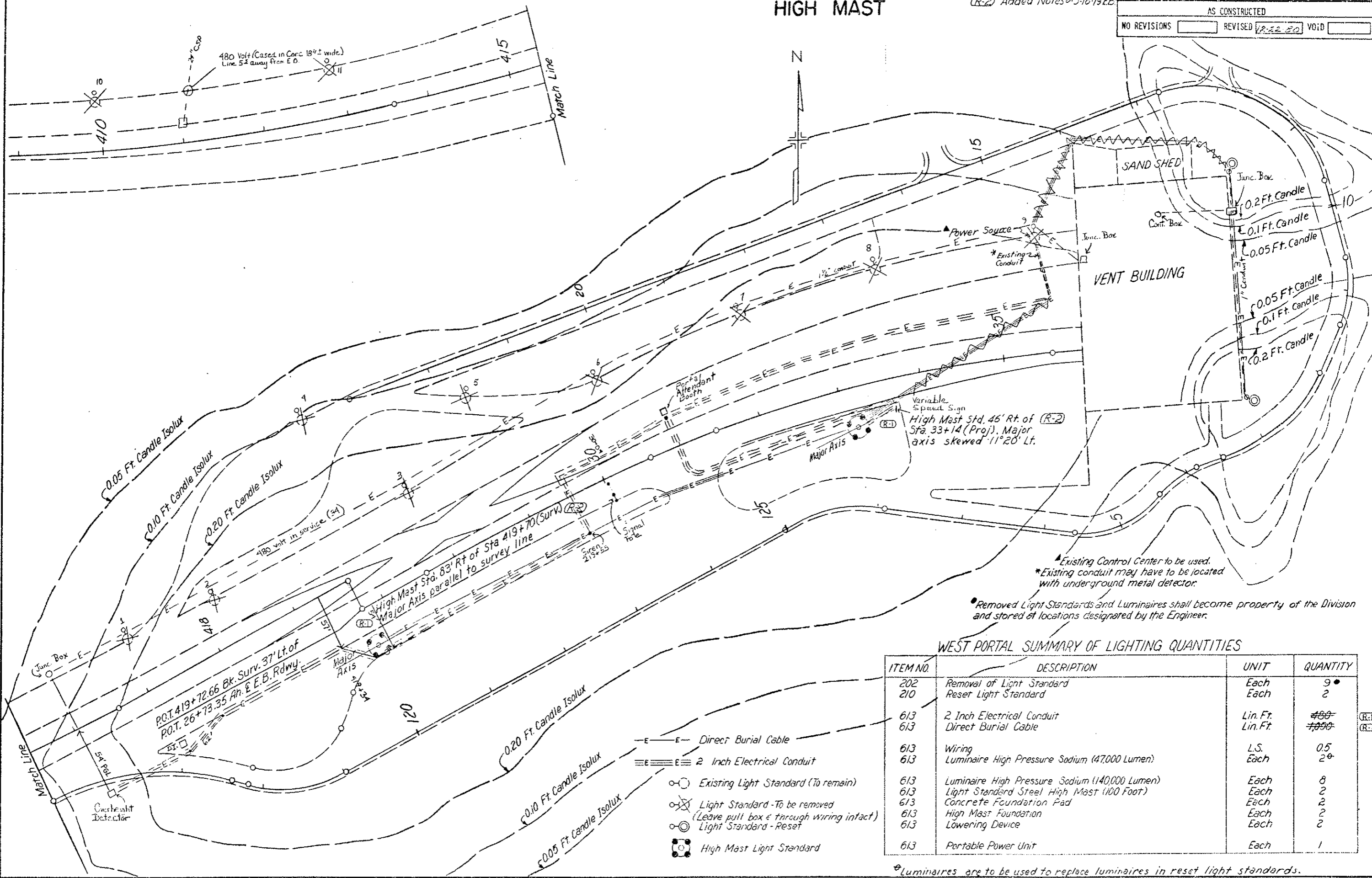
FINAL SURVEY
 SUBJECT TO
 PLANS
 REVISIONS
 DATE

ORIGINAL SURVEY
 DATE
 BY
 CHECKED
 DATE

FINAL WEST PORTAL LIGHTING PLAN HIGH MAST

(R-1) Relocated High Mast Lights,
 Revised Quantities as
 5-7-79 in EB.
 (R-2) Added Notes 5-18-79 EB

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I70-3184)220	50	102
AS CONSTRUCTED				
NO REVISIONS	REVISED	VOID		



Existing Control Center to be used.
 *Existing conduit may have to be located with underground metal detector.
 •Removed Light Standards and Luminaires shall become property of the Division and stored at locations designated by the Engineer.

WEST PORTAL SUMMARY OF LIGHTING QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
202	Removal of Light Standard	Each	9
210	Reset Light Standard	Each	2
613	2 Inch Electrical Conduit	Lin. Ft.	460
613	Direct Burial Cable	Lin. Ft.	460
613	Wiring	L.S.	0.5
613	Luminaire High Pressure Sodium (47,000 Lumen)	Each	2
613	Luminaire High Pressure Sodium (140,000 Lumen)	Each	8
613	Light Standard Steel High Mast (100 Foot)	Each	2
613	Concrete Foundation Pad	Each	2
613	High Mast Foundation	Each	2
613	Lowering Device	Each	2
613	Portable Power Unit	Each	1

•Luminaires are to be used to replace luminaires in reset light standards.

- Direct Burial Cable
- 2 Inch Electrical Conduit
- Existing Light Standard (To remain)
- ⊗ Light Standard - To be removed (Leave pull box & through wiring intact)
- ⊙ Light Standard - Reset
- ⊠ High Mast Light Standard

EAST PORTAL SUMMARY OF LIGHTING QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
202	Removal of Light Standard	Each	6
210	Reset Light Standard	Each	6
613	3/4 Inch Electrical Conduit	Lin. Ft.	70
613	2 Inch Electrical Conduit	Lin. Ft.	260
613	Direct Burial Cable	Lin. Ft.	3,500
613	Wiring	L.S.	0.5
613	Luminaire High Pressure Sodium (47,000 Lumen)	Each	6
613	Luminaire High Pressure Sodium (Wall Type) (12,000 Lumen)	Each	*2
613	Luminaire High Pressure Sodium (140,000 Lumen)	Each	8
613	Light Standard Steel High Mast (100 Foot)	Each	2
613	Concrete Foundation Pad	Each	6
613	High Mast Foundation	Each	2
613	Lowering Device	Each	2
(R-1) 202	Removal of Asphalt Mat	SqYd	100 #

Removed Light Standard and Luminaires shall become property of the Division and stored at locations designated by the Engineer.

* For Structures F-13-0 & F-13-P

(R-1) # Carried to Tabulation of Asphalt Mat Removal

▲ Existing Control Center to be used.

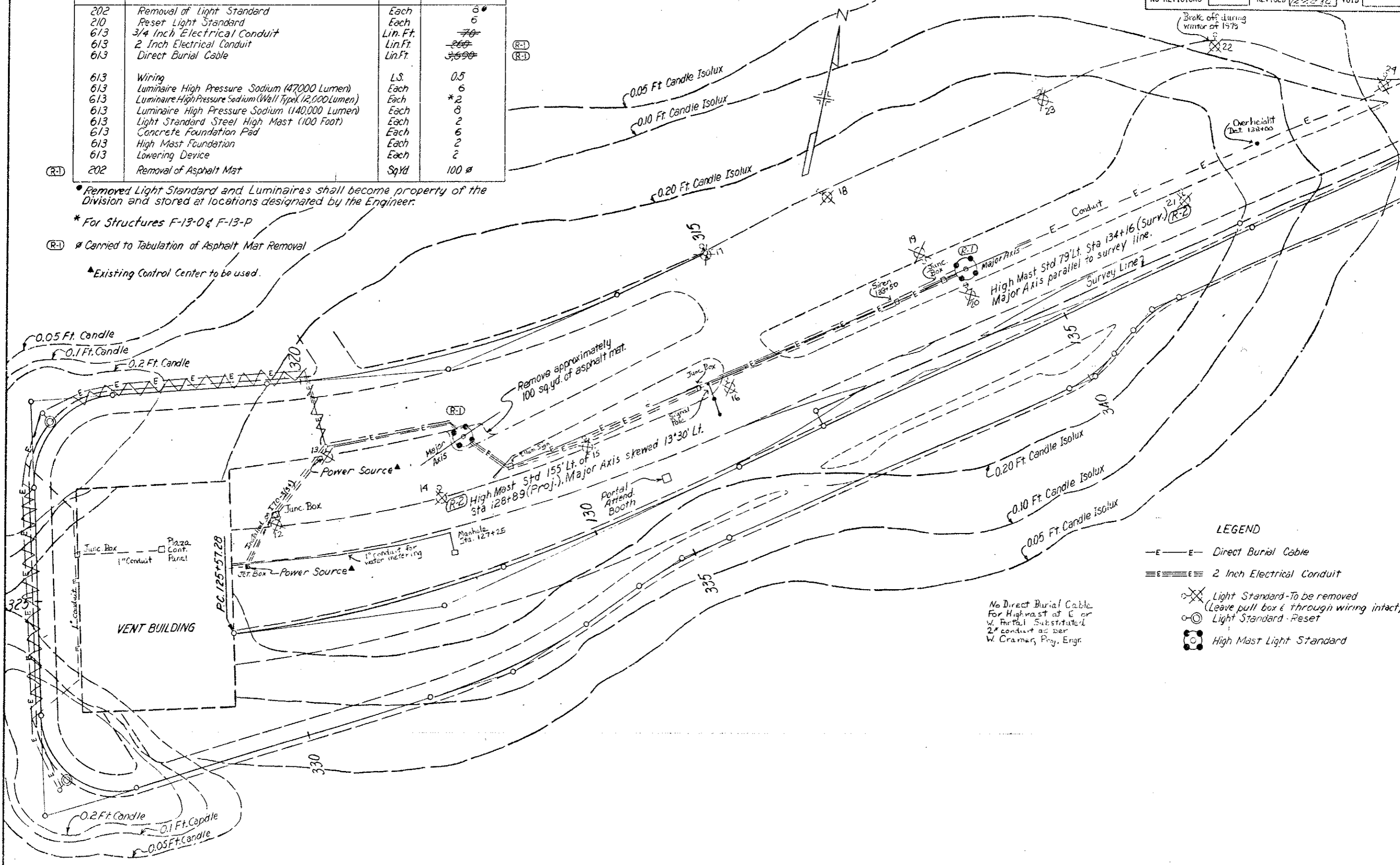
FINAL EAST PORTAL LIGHTING PLAN
 HIGH MAST

(R-1) Relocated High Mast Lights and Power Source; Revised Quantities Added Notes 5-7-79 E.B.
 (R-2) Added Notes 5-18-79 E.B.

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(BA)220	51	112

AS CONSTRUCTED

NO REVISIONS REVISED (2-22-72) VOID



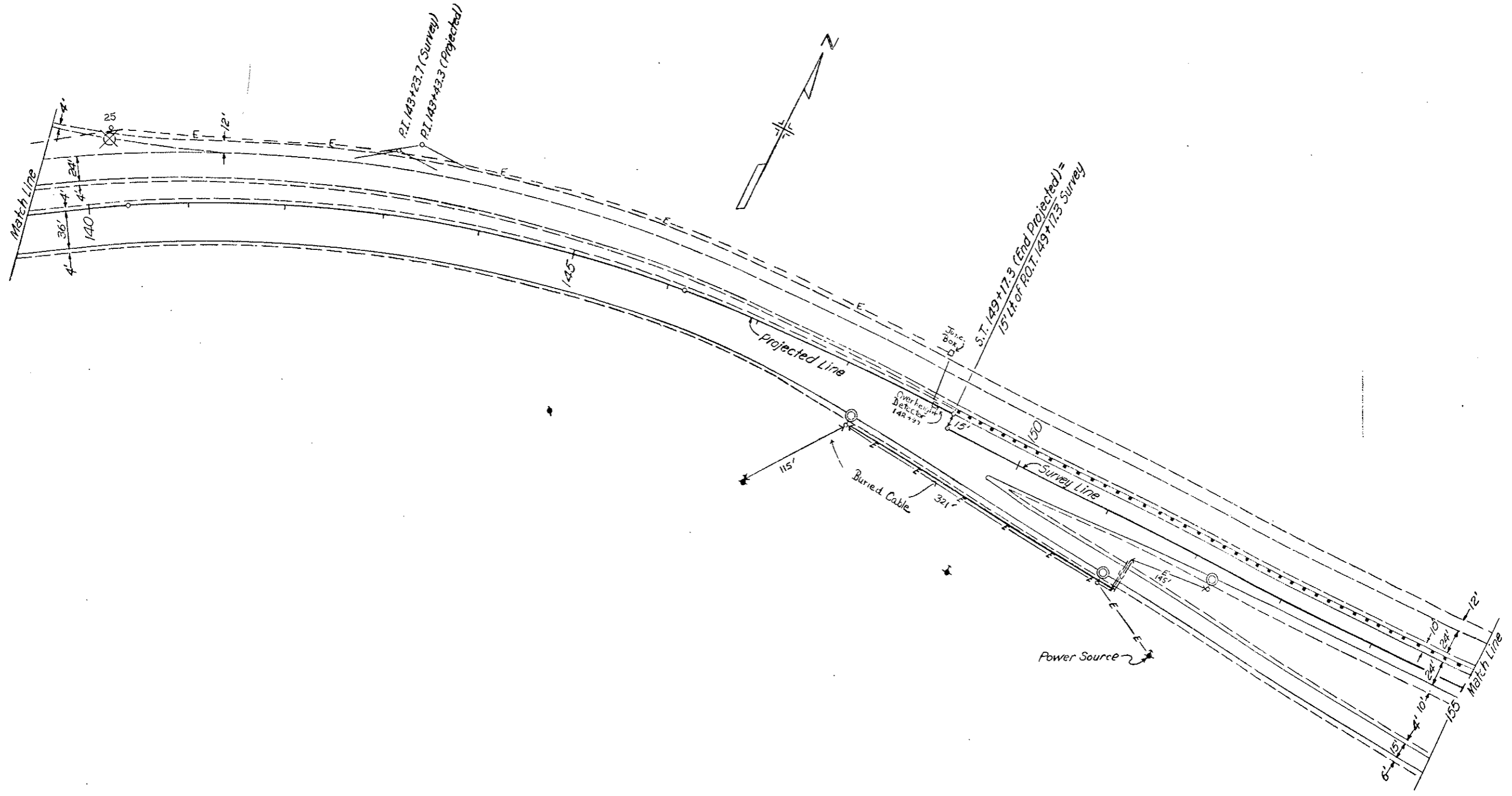
LEGEND

- E-E- Direct Burial Cable
- ==== 2 Inch Electrical Conduit
- ⊗ Light Standard - To be removed (Leave pull box & through wiring intact)
- ⊙ Light Standard - Reset
- ⊕ High Mast Light Standard

No Direct Burial Cable For Highmast at E or W Portal. Substituted 2" conduit as per W. Cramer, Proj. Engr.

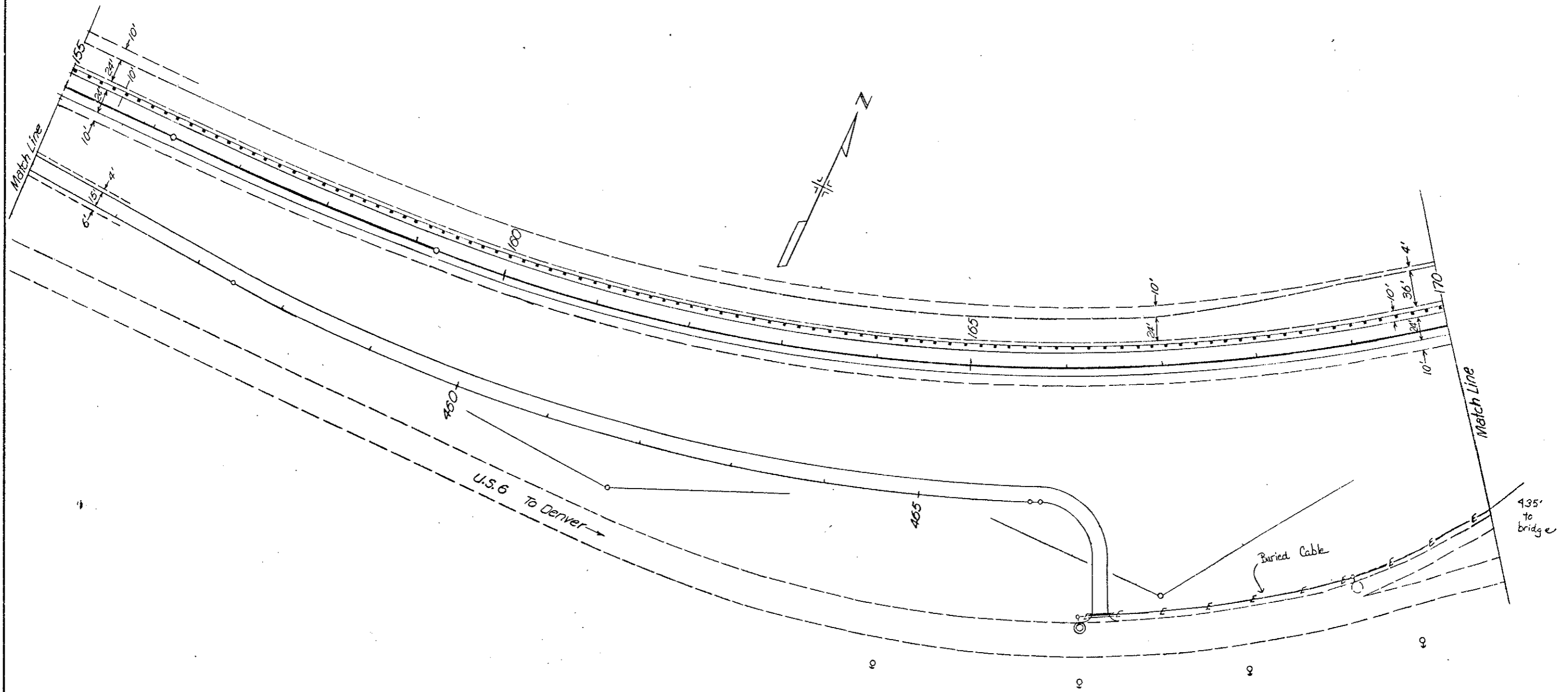
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(84)220	52	102
AS CONSTRUCTED				
NO REVISIONS		REVISED	3-22-80	VOID

FINAL LIGHTING PLAN



FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(84)220	53	102
AS CONSTRUCTED				
NO REVISIONS		REVISED	2-22-80	VOID

FINAL LIGHTING PLAN

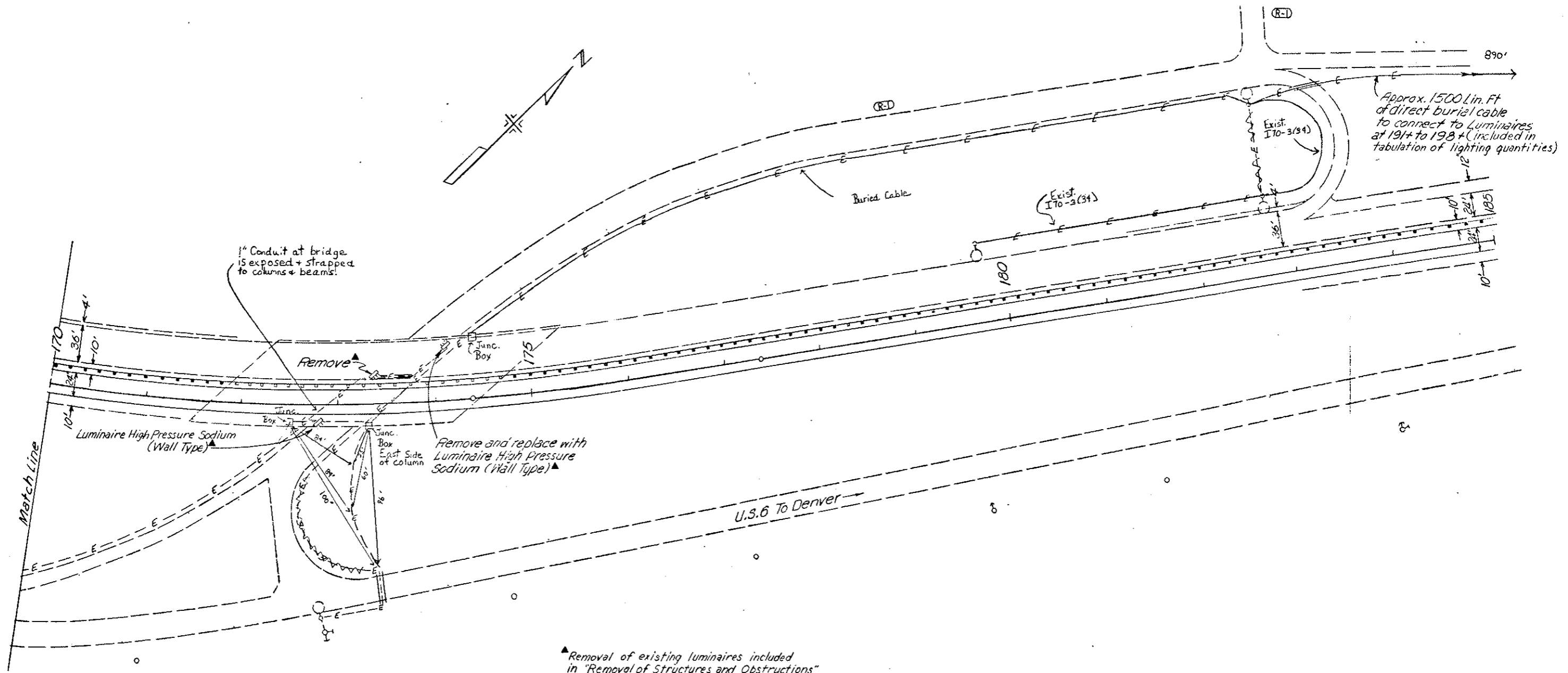


FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	170-3(84)220	54	102

AS CONSTRUCTED
 NO REVISIONS REVISED VOID

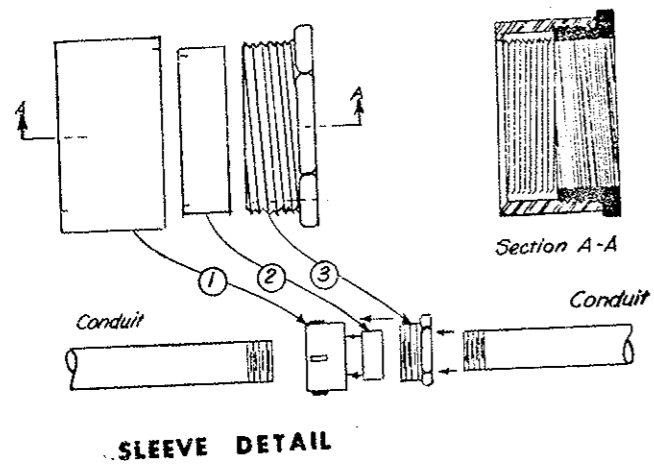
(R-1) Moved Approach 5-7-79 EB.

FINAL LIGHTING PLAN



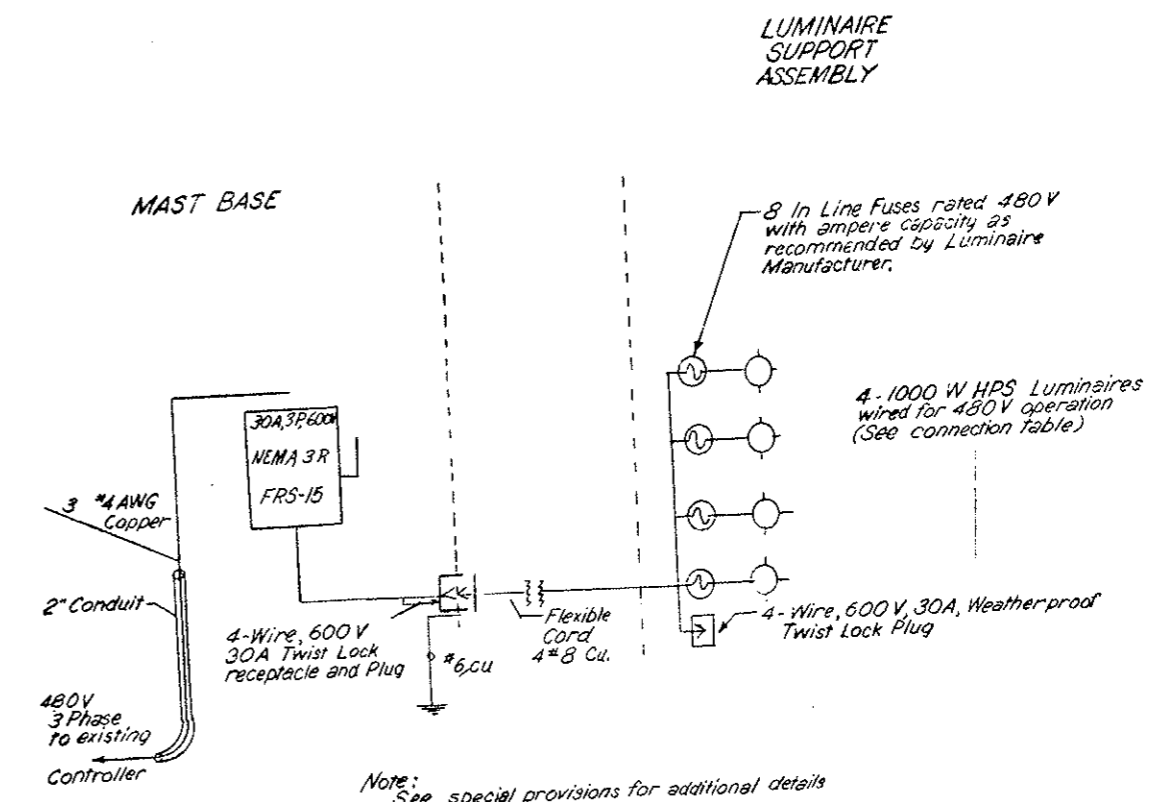
▲ Removal of existing luminaires included in "Removal of Structures and Obstructions" New luminaires and conduit included in tabulation of lighting quantities.

ROADWAY LIGHTING



LOCATION OF LUMINAIRE (STA.)	SIZE (WATTS)	CONNECTED PHASES
410	400	A-B
412	400	B-C
419	1000	A-C
419	1000	A-B
419	1000	B-C
419	1000	A-C
33	1000	A-B
33	1000	B-C
33	1000	A-C
33	1000	A-B
33	1000	B-C
7 (SERVICE ROAD)	400	B-C
11 (SERVICE ROAD)	400	B-C
322 (SERVICE ROAD)	400	A-B
327 (SERVICE ROAD)	400	B-C
129	1000	A-C
129	1000	A-B
129	1000	B-C
129	1000	A-C
135	1000	A-B
135	1000	B-C
135	1000	A-C
135	1000	A-B
135	1000	B-C
142	400	A-C
145	400	A-B
148	400	A-B
151	400	B-C
152	400	B-C

CONNECTIONS MAY BE VARIED TO CORRESPOND TO EXISTING WIRING PROVIDED PHASE IMBALANCE DOES NOT EXCEED ONE SMALL LUMINAIRE LOAD.

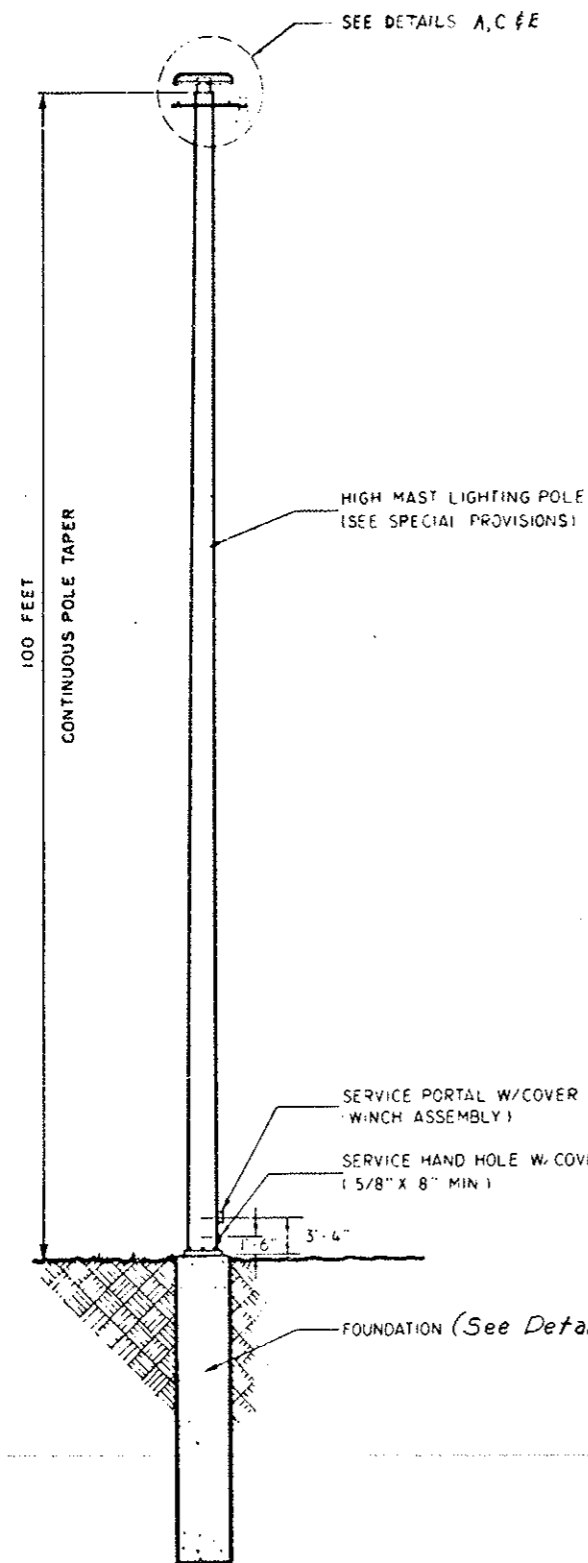


Note: See special provisions for additional details

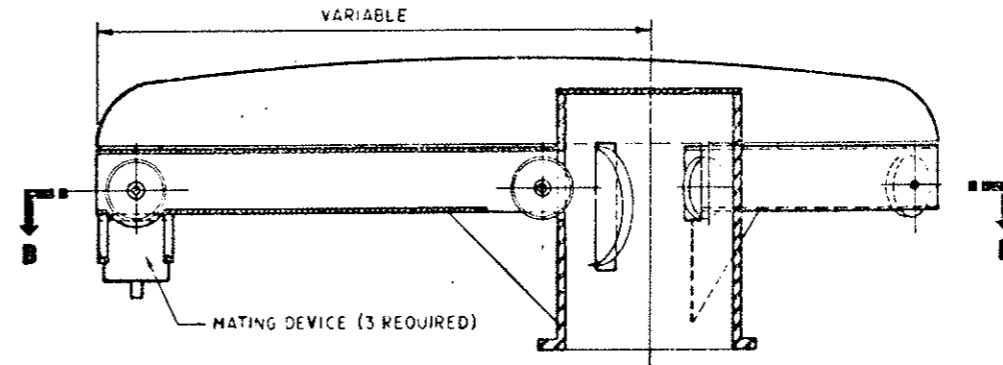
ROADWAY LIGHTING

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO	SHEET NO.
STATE	COLORADO	I 70-3(54) 220	56

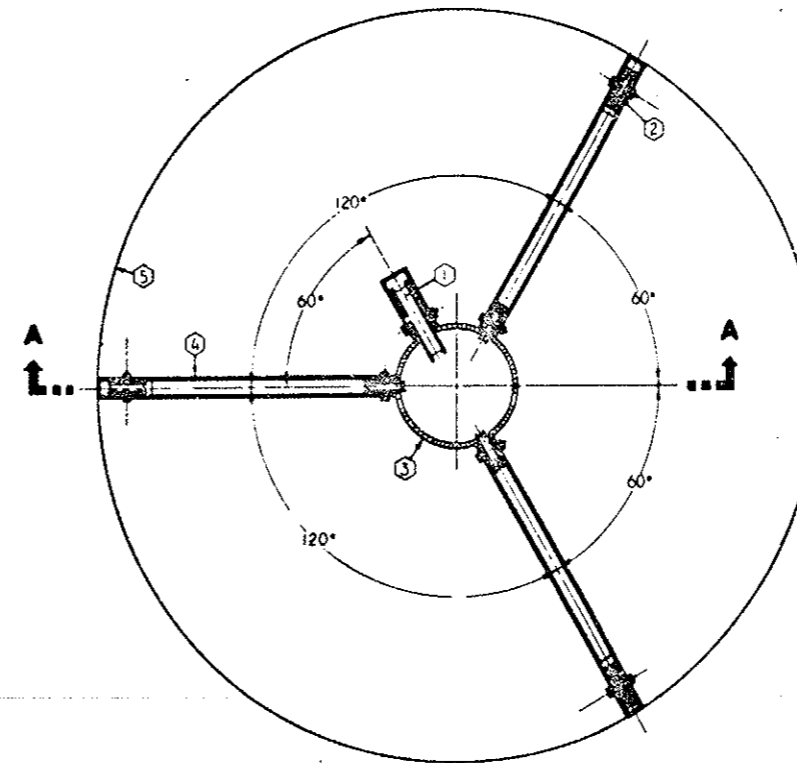
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID



HIGH MAST LIGHTING UNIT



SECTION A - A
DETAIL A ELEVATION POLE TOP ASSEMBLY



SECTION B - B

NOTES

- ① MINIMUM 8" DIA CABLE PULLEY (FOR PORTABLE ELECTRICAL CABLE)
- ② 4" DIA. SUPPORT CABLE PULLEY (6 REQUIRED)
- ③ POLE TOP (SCHEDULE 80 PIPE)
- ④ RECTANGULAR TUBE
- ⑤ HOOD

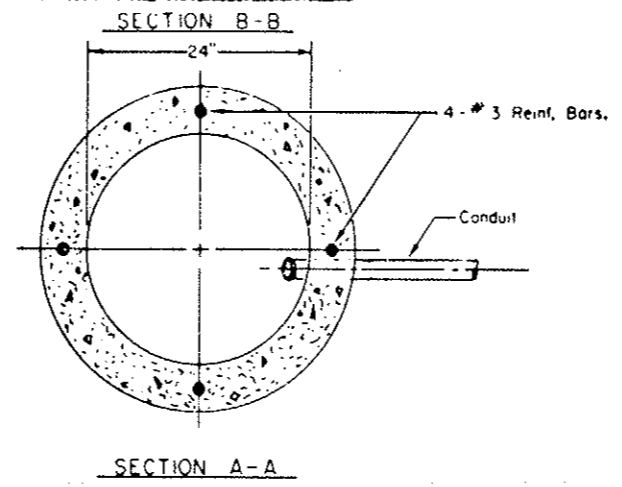
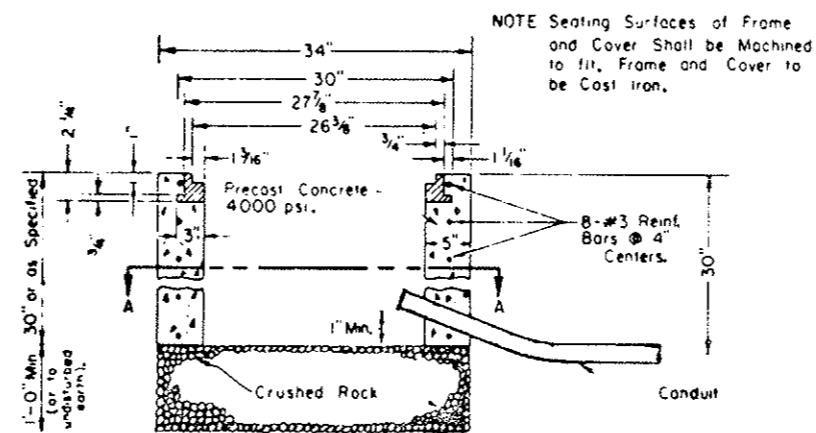
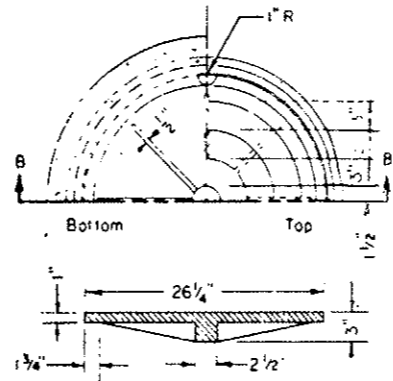
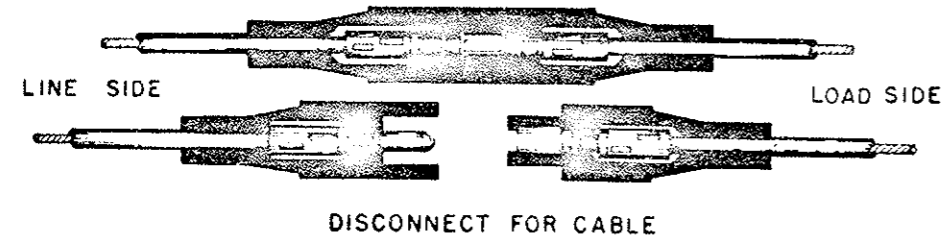
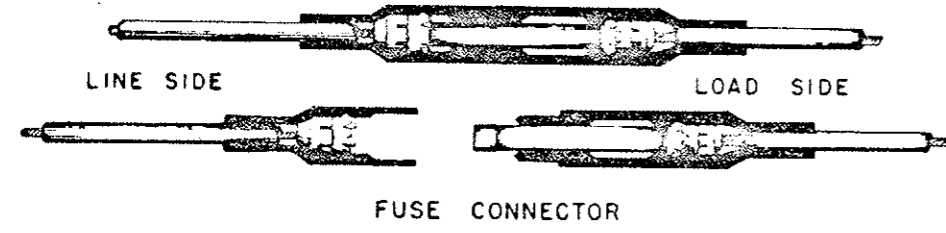
DETAILS FOR THE LOWERING SYSTEM ARE ONLY "FUNCTIONAL DRAWINGS" AND REPRESENT A TYPICAL LAYOUT.
REQ'D. 1- POWER CABLE DISCONNECT AT BASE OF POLE

THE CONTRACTOR MAY SUBMIT FOR APPROVAL A LOWERING SYSTEM OF HIS OWN DESIGN PROVIDING IT MEETS THE REQUIREMENTS OF THE SPECIAL PROVISIONS.

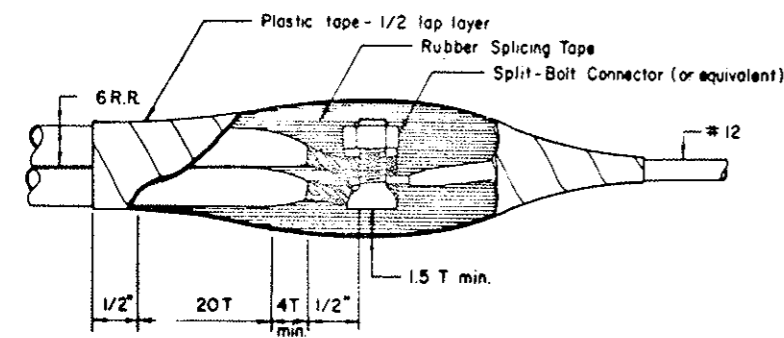
ROADWAY LIGHTING

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.
XIII	COLO.	I 70 3(64)220	57

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID
12-22-82		

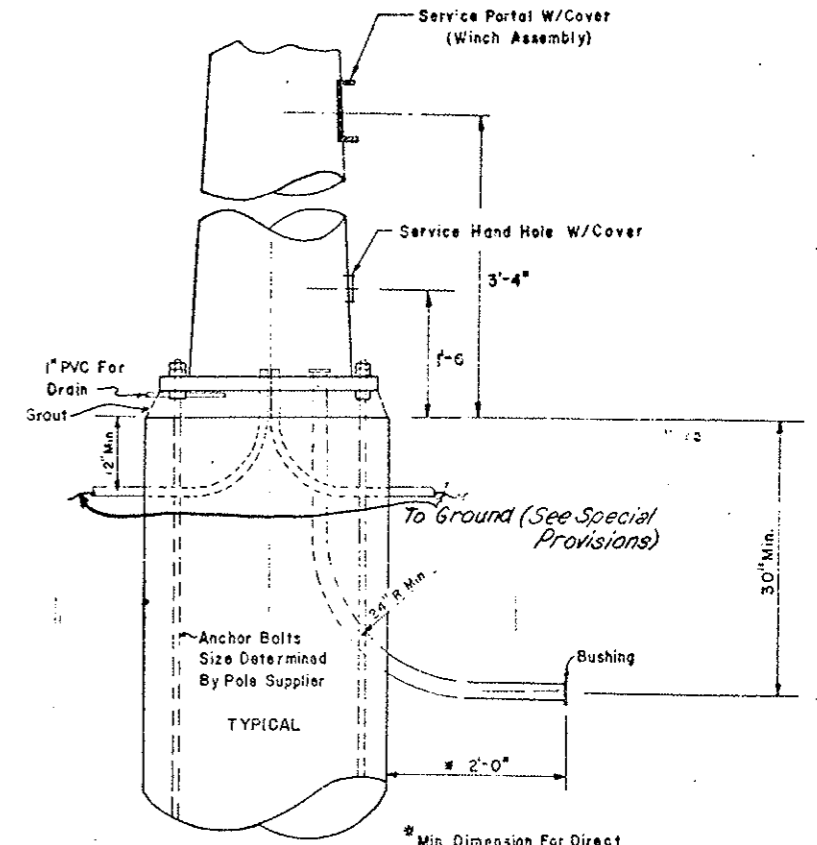


PULL BOX



T = Thickness of Insulation

CABLE SPLICE



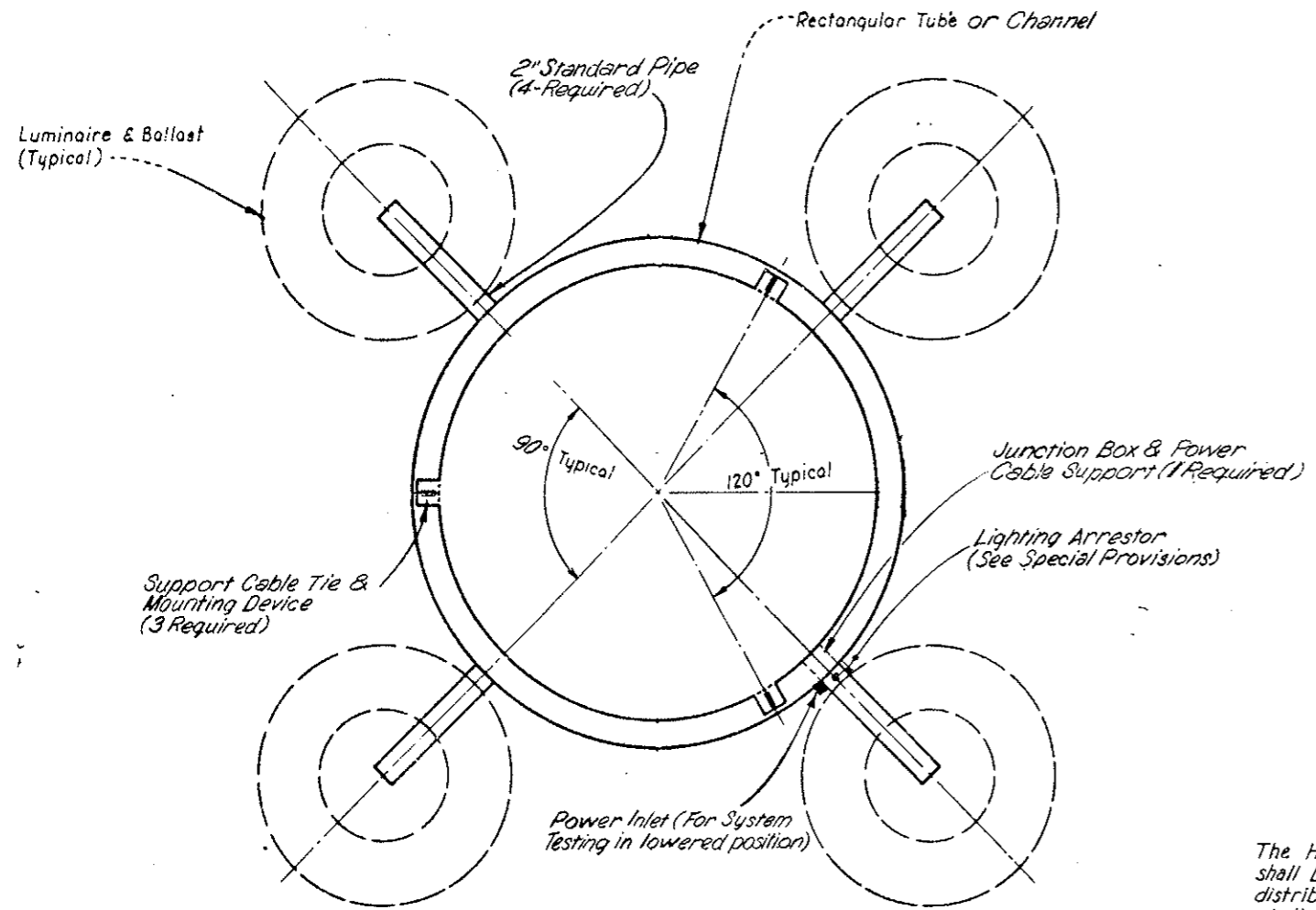
FOUNDATION NOTES

The Working Stress For Class "A" Concrete Shall Be 1200 p.s.i.
 The Working Stress For Reinforcing Steel Shall Be 24,000 p.s.i.
 Conduit, Ground Rods and Cable Not Shown.

ROADWAY LIGHTING

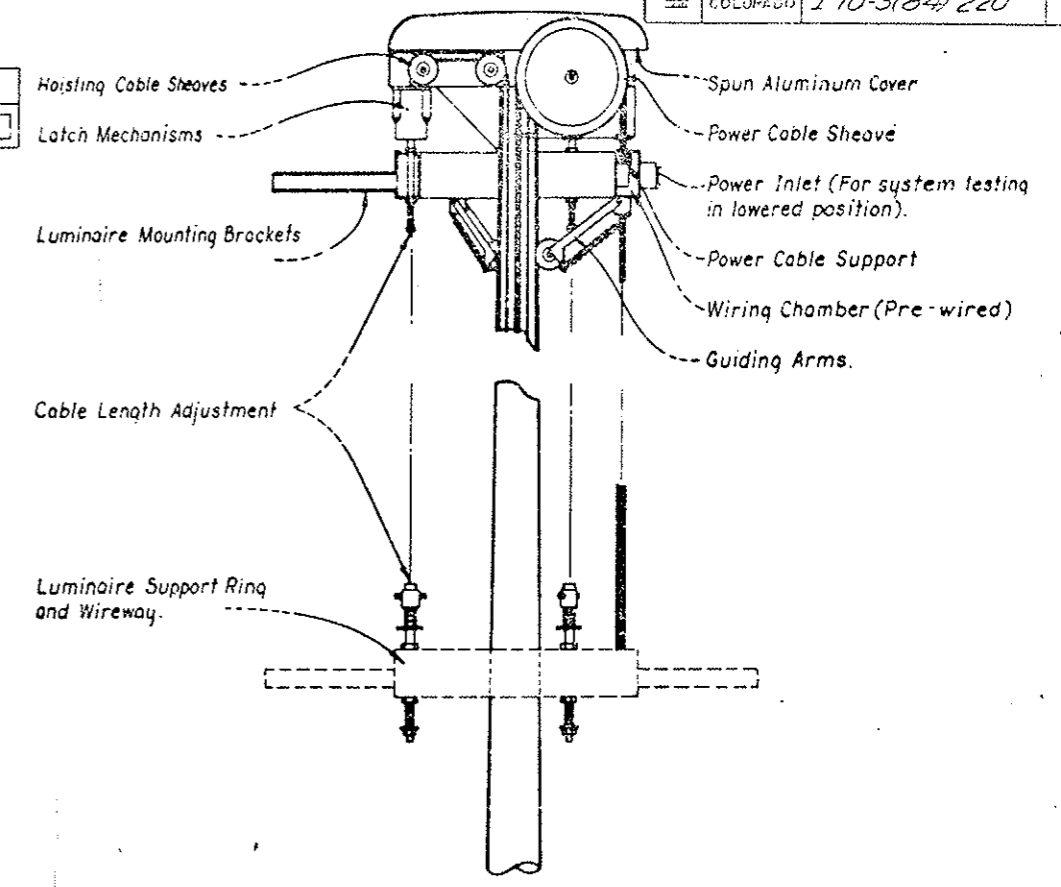
FED. REG. NO.	DIVISION	PROJECT NO.	SHEET NO.
COLOMADO	I 70-3(84)	220	58

AS CONSTRUCTED
NO REVISIONS <input checked="" type="checkbox"/> REVISED <input type="checkbox"/> VOID <input type="checkbox"/>

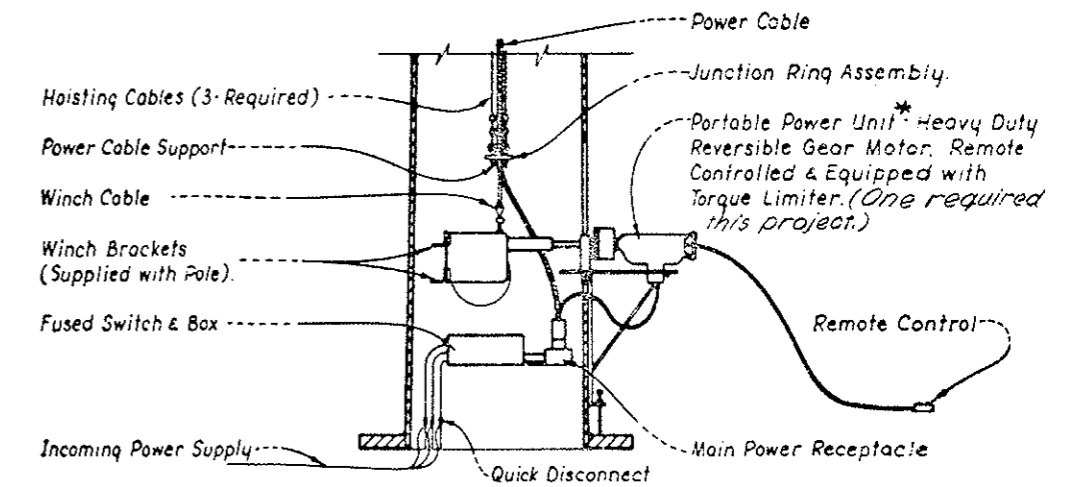


**LUMINAIRE SUPPORT ASSEMBLY
DETAIL "C"**

NOTES
The High Mast Poles on this Project shall be equipped with 4 - Asymmetric distribution luminaires. Major axis shall be as shown on Detail of Interchange



RAISING AND LOWERING DEVICE DETAIL "E"



**POLE BASE
DETAIL "G"**

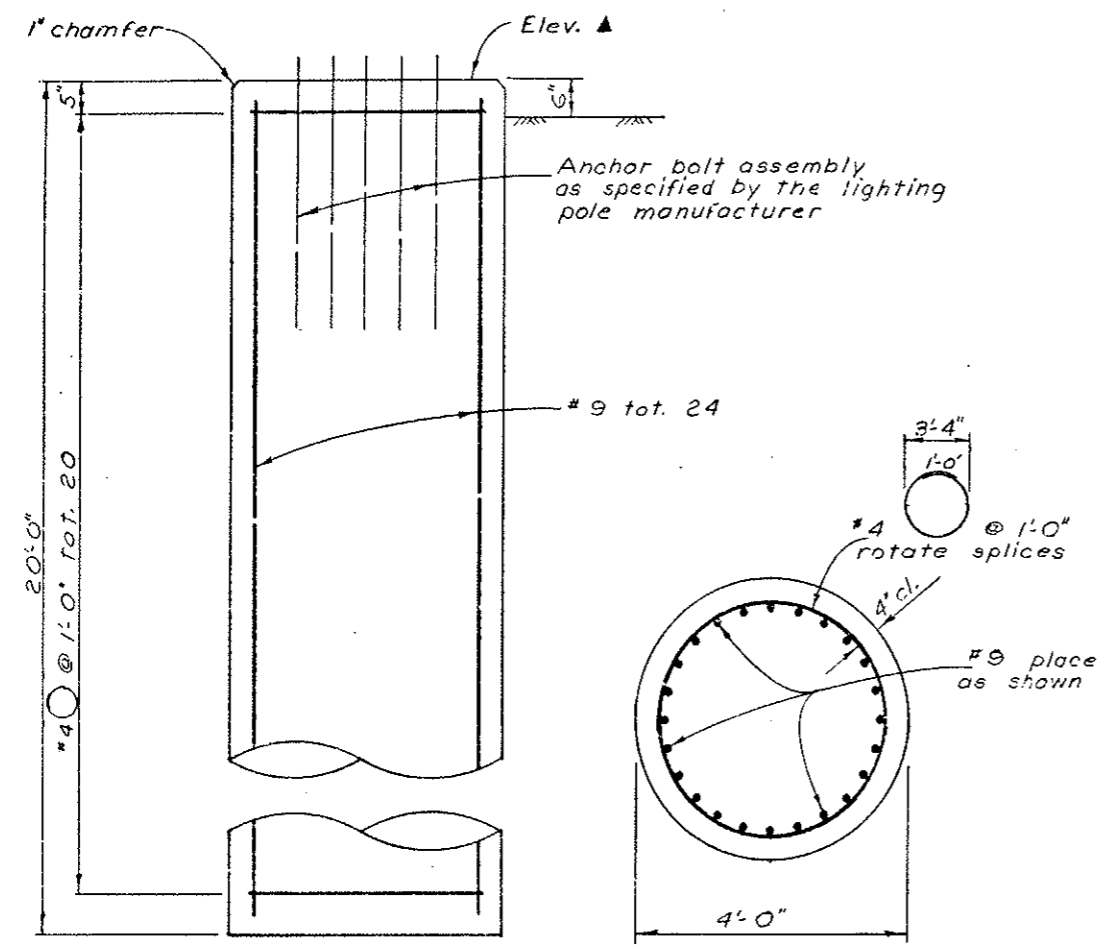
*If 480 VAC unit cannot be obtained portable voltage conversion equipment shall be supplied. Plug must fit into major power receptacle.

AS CONSTRUCTED		
NO REVISIONS	2-22-80	REVISED
		VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	170-3(B-4)	59	102

REVISIONS	

DESIGNED BY	CHECKED BY	DATE	QUANTITIES BY
CHECKED BY	DATE	QUANTITIES BY	CHECKED BY



ELEVATION **TYPICAL SECTION**

Note: Rock elevation occurs approx. 8' above caisson tip at Sta. 128+57.

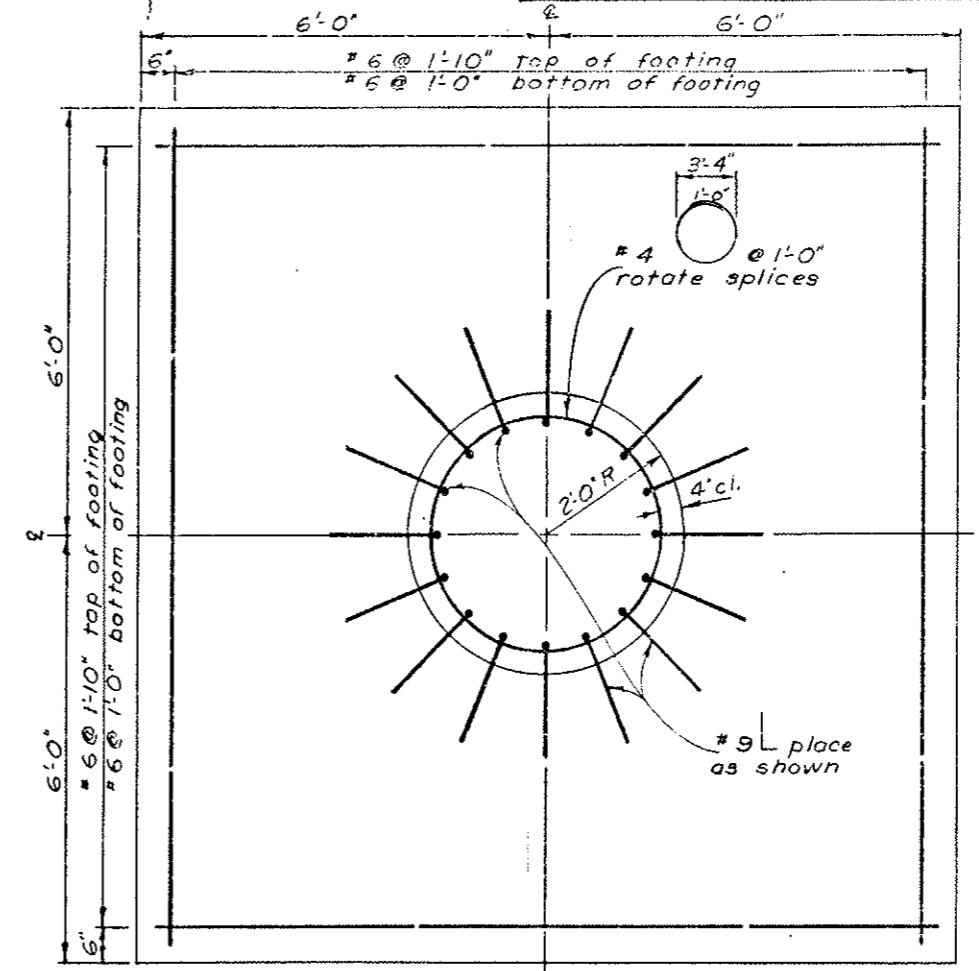
Quantities (one caisson)	
Concrete, Class A	Cu. Yd. 9.31
Reinforcing Steel	Lb. 1760

For information only

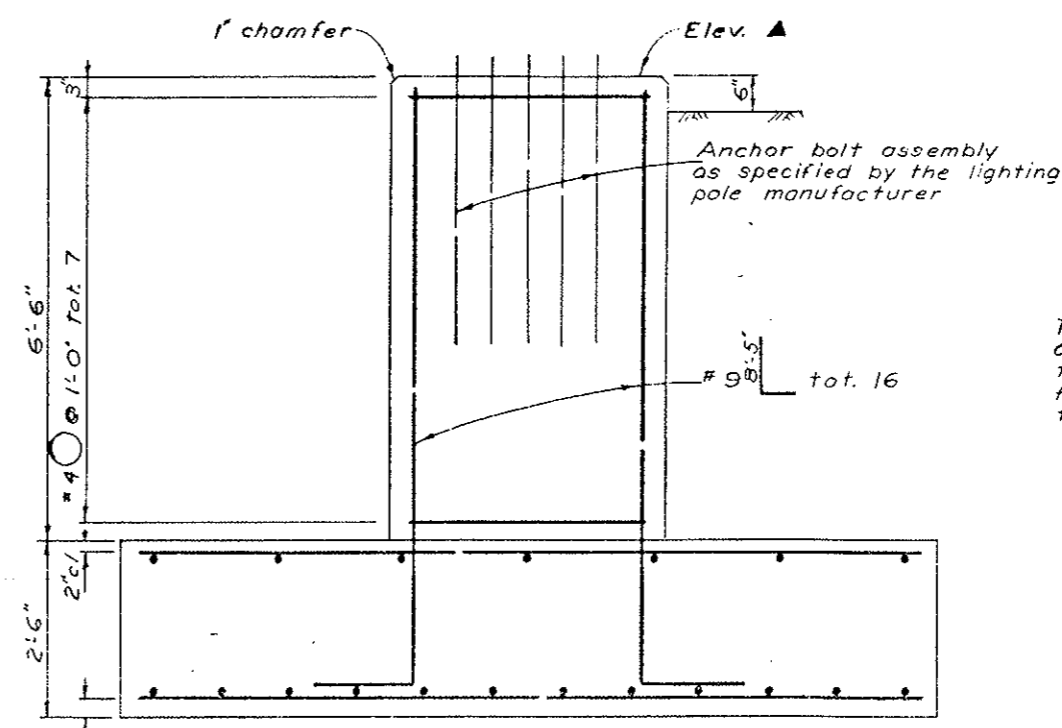
CAISSON DETAIL

Tower Sta.	Elev. ▲
25+07 (A)	11123
33+20	11152
128+57	11007
134+82	10984

Elevations shown shall be verified at time of construction. (By field forces)



PLAN



ELEVATION

FOUNDATION WITH FOOTING DETAILS

Quantities (one foundation)	
Structure Excavation	Cu. Yd. 72
Structure Backfill	Cu. Yd. 56
Concrete, Class A	Cu. Yd. 16.5
Reinforcing Steel	Lb. 1300

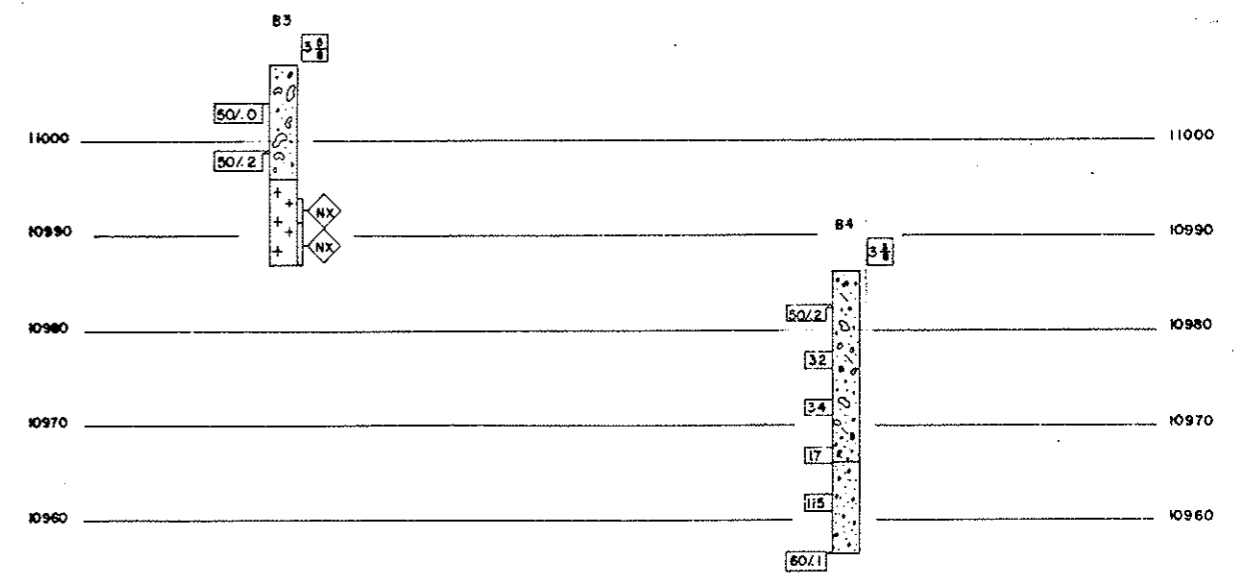
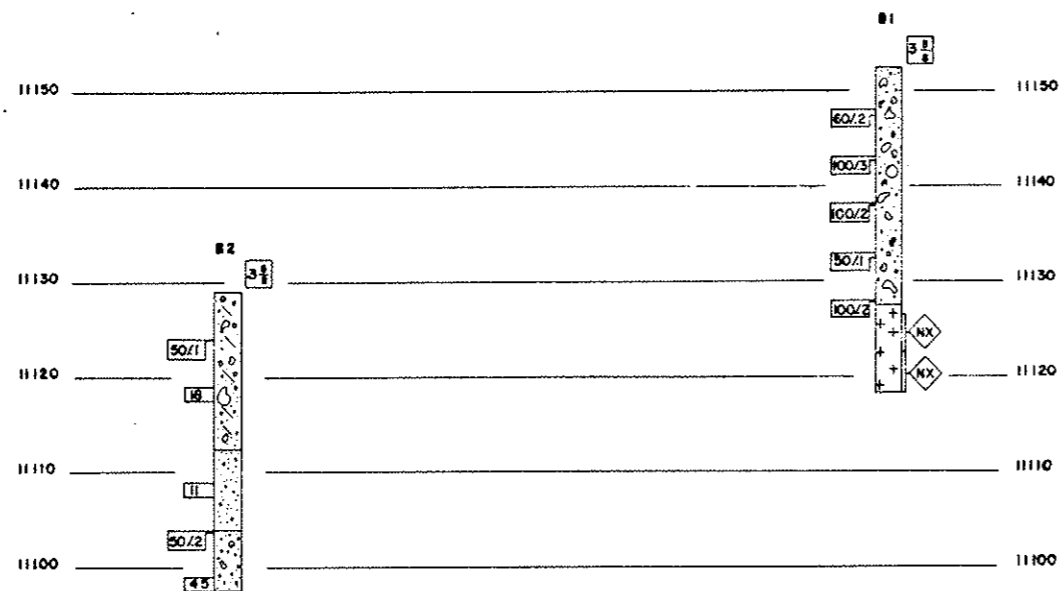
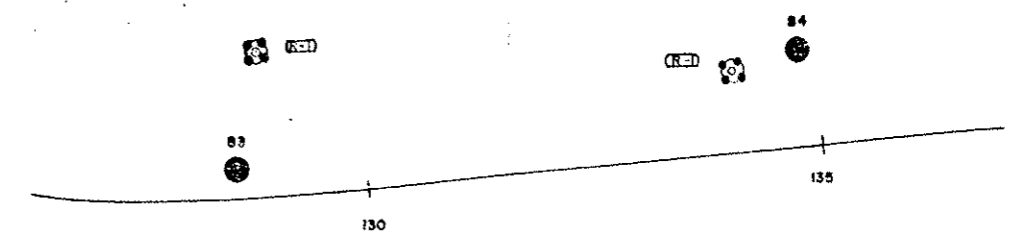
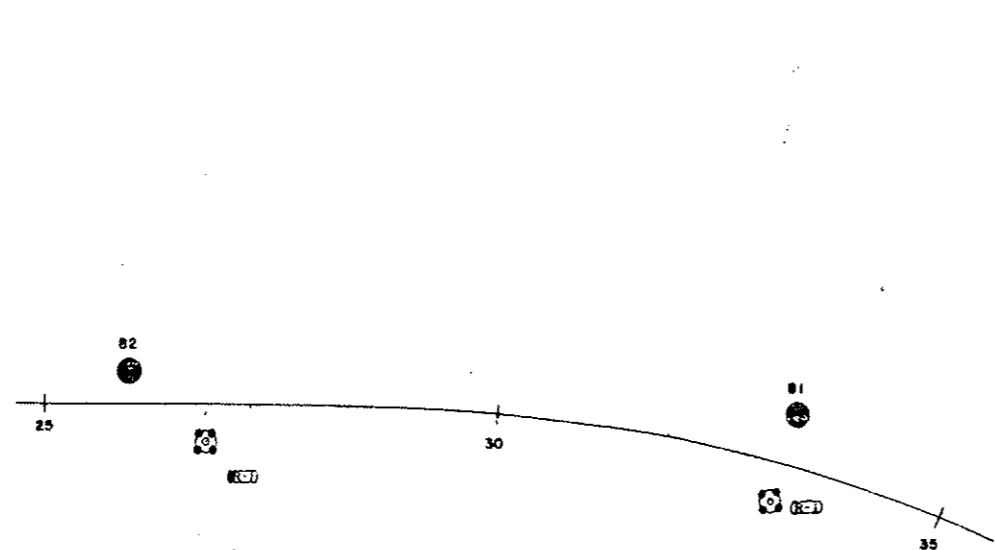
For information only

The Contractor will be permitted to construct either the spread footing type foundation or the caisson type foundation at each location according to the details shown here.

DIVISION OF HIGHWAYS	
HIGH MAST LIGHTING FOUNDATIONS	
Designer <i>F. Lundberg</i>	Structure Numbers
Detailer <i>E. Hadley</i>	Drawings
Drawing Number <i>B 1</i>	of <i>2</i>

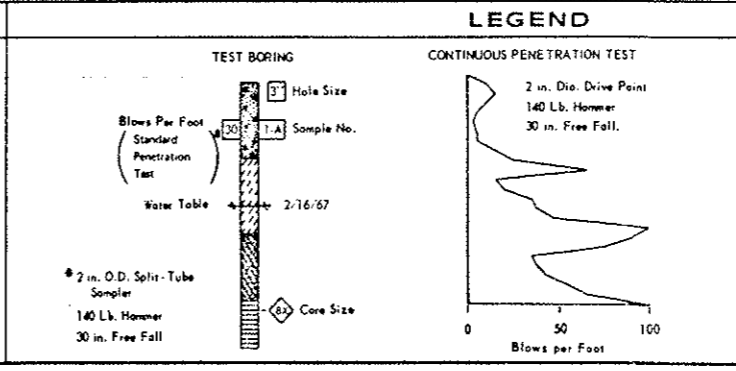
FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
VIII	COLO.	170-3(84)	60	102

AS CONSTRUCTED		
NO REVISIONS	2-22-79	REVISED
		VOID



SUMMARY OF TEST RESULTS																									
Sample No.	Depth	Classification	Grading Analysis				Atterberg Limits			Water Cont. %	Wet Unit Weight	Unconfined Strength	Triaxial Shear Strength						Dia. of Sample (Inches)						
			Coarse	Medium	Fine	Silt and Clay	Liquid Limit	Plastic Limit	Plasticity Index				Unconsolidated	Consolidated	σ ₁	σ ₃	τ	σ ₁		σ ₃	τ				

TYPE OF MATERIAL	
	GRAVEL, COBBLES, BOULDER, SAND, SILTY
	GRAVELLY SAND
	GRANITE



**DIVISION OF HIGHWAYS
STATE OF COLORADO**

ENGINEERING GEOLOGY

Across EISENHOWER TUNNEL
Sta. 25+07.10 to 29+82

Near _____ Sec. _____ T. _____ R. _____

Geologist LSB Approved by _____
Made by PM Bridge Engineer
Checked by KB Date: APRIL 18 1979

STRUCTURE NO. _____
DWG. NO. B 2 OF 2

FINAL TABULATION OF SIGNING QUANTITIES

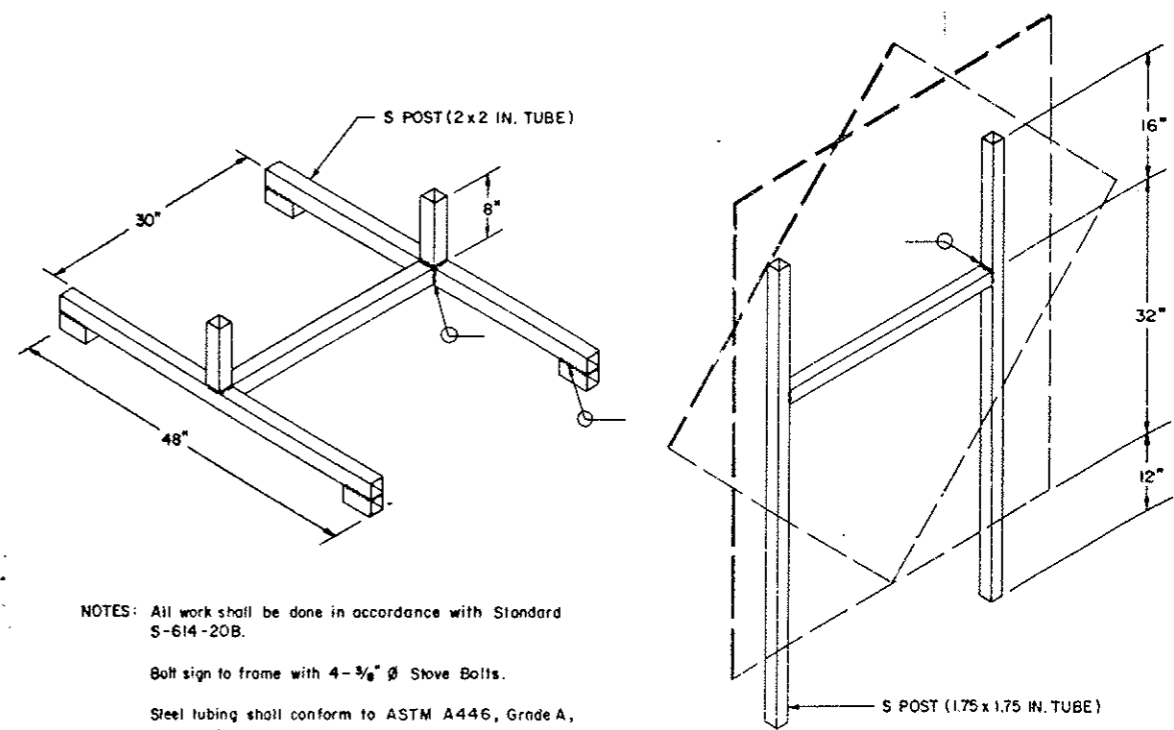
ITEM NO.	ITEM	UNIT	PROJECT TOTALS
202	REM DELINEATOR	EA.	45 25
202	REM PAVEMENT MARKING	SQ. FT.	3,000 10,837
202	REM GROUND SIGN	EA.	53 48
202	REM SIGN PANEL	EA.	2
202	REM TRAF SIG FACE	EA.	2
202	REM PEDESTAL POLE	EA.	2
210	RES GROUND SIGN	EA.	21
210	RES ILLUM GROUND SIGN	EA.	1
210	RES OVERHEIGHT VEH DET	EA.	1
613	2 IN ELEC COND	LIN. FT.	1022 700
614	SIGN PANEL (CL. I)	SQ. FT.	201 204
614	SIGN PANEL (CL. II)	SQ. FT.	484 485
614	SIGN PANEL (CL. III)	SQ. FT.	850 819
614	TIMBER SIGN POST (4 X 4)	LIN. FT.	280 295
614	TIMBER SIGN POST (6 X 6)	LIN. FT.	405
614	STEEL SIGN POST (U-2)	LIN. FT.	211
614	STEEL SIGN POST (1.75 X 1.75 IN TUBE)	LIN. FT.	100
614	STEEL SIGN POST (2 X 2 IN TUBE)	LIN. FT.	106
614	STEEL SIGN POST (S 4 X 7.7)	LIN. FT.	24
614	STEEL SIGN POST (W 6 X 15.5)	LIN. FT.	80.25 89
614	STEEL SIGN POST (W 8 X 17)	LIN. FT.	31.5 34
614	STEEL SIGN POST (W 10 X 21)	LIN. FT.	116.1 82
614	STEEL SIGN POST (W 10 X 25)	LIN. FT.	43.5 44
614	CONC FOOTING (TY 2)	EA.	6
614	CONC FOOTING (TY 3)	EA.	2
614	CONC FOOTING (TY 5)	EA.	6 4
614	CONC FOOTING (TY 6)	EA.	2
614	TRAF SIG (12-8-8)	EA.	5
614	BARRICADE (3M-A) (TEMP)	EA.	8
614	CONST TRAF SIGN (A)	EA.	41 19
614	CONST TRAF SIGN (B)	EA.	37 45
614	CONST TRAF SIGN (C)	EA.	8 12
614	VERTICAL PANEL	EA.	74 18
614	FLASHING ARROW PANEL	EA.	1
* 614	TRAFFIC CONE	EA.	200 156
614	SIG. POLE S (1)	EA.	2
627	PVMT. MKG. PAINT	GAL.	262 184
627	THERMOPLASTIC PVMT. MKG.	SQ. FT.	38,182 29,513
627	PREFORMED PLASTIC PVMT. MKG.	SQ. FT.	5,706 4,368

* - All traffic cones shall be 28". The 40 cones shown in the "Tabulation of Signs" to be delivered to the Tunnel Maintenance Superintendent shall be new cones and shall remain the property of the Department of Highways.
 16 traffic cones shown to be placed across the access openings at the East and West portal approaches shall be new cones and shall remain the property of the Department of Highways.

SCHEDULE OF CONSTRUCTION TRAFFIC SIGNS

SIGN CODE or LEGEND	DIMENSIONS	PANEL SIZE			QUANTITY REQUIRED
		A	B	C	
XW20-1	48" x 48"		X		9
XW20-7	48" x 48"		X		4
BE/PREPARED /TC/STOP	36" x 36"	X			4
XW20-5(L)	48" x 48"		X		4
IW4-2(L)	48" x 48"		X		4
XW20-5(R)	48" x 48"		X		4
IW4-2(R)	48" x 48"		X		4
SG20-1	60" x 36"		X		4
SG20-2	60" x 24"		X		6
TYPE I BARRICADE		X			15
IR2-1(40)	48" x 60"			X	4
IR2-1(30)	48" x 60"			X	4
IR2-1(55)	48" x 60"			X	4
IW6-3	48" x 48"		X		2
IWI-4(R)	48" x 48"		X		2
IWI-4(L)	48" x 48"		X		2

SIGN STAND DETAIL



NOTES: All work shall be done in accordance with Standard S-614-20B.
 Bolt sign to frame with 4-3/8" ⌀ Stove Bolts.
 Steel tubing shall conform to ASTM A446, Grade A, with G90 galvanizing.

FINAL TABULATION OF SIGNS (REMOVALS)

AS CONSTRUCTED		
NO REVISIONS <input type="checkbox"/>	REVISED <u>2-22-70</u>	VOID <input type="checkbox"/>

FEDERAL ROAD REG. NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	I 70-3(84) 220	64	102

SIGN NO.	SIGN CODE	STATION	SIGN PANEL SIZE	BACK-GROUND COLOR	REMOVE		RESEAL	MODIFY		NO. OF POSTS	LENGTH OF POST	POST TYPE (LIN. FT.)								CONC FOOTING TYPE (EACH)								SIGN PANEL (SQ. FT.)									
					GROUND SIGN (EACH)	DELINEATOR (EACH)	GROUND SIGN (EACH)	TIMBER SIGN POST (EACH)	STEEL SIGN POST (EACH)			4x4 TIMBER	6x6 TIMBER	W6x12 BEAM	W6x15 BEAM	W8x17 BEAM	W8x20 BEAM	W10x21 BEAM	W10x25 BEAM	W12x31 BEAM	W12x40 BEAM	1	2	3	4	5	6	7	8	CLASS I	CLASS II	CLASS III					
76		127+10			1	✓																															
77		13+80 RAMP			1	✓																															
PROJECT TOTALS					53	45																															
PROJECT TOTALS					48	25																															

NOTES:

1. SEE PLANS FOR FABRICATION DETAILS OF REGULATORY SIGNS, WARNING SIGNS, ROUTE MARKERS, AND AUXILIARY MARKERS.
2. PANELS FOR CLASS I SIGNS SHALL BE EITHER SINGLE SHEET ALUMINUM OR SINGLE SHEET STEEL AND SHALL BE REFLECTORIZED AS INDICATED. SEE STANDARD S-614-20B.
3. PANELS FOR CLASS II SIGNS SHALL BE EITHER SINGLE SHEET ALUMINUM OR SINGLE SHEET STEEL, SHALL HAVE BACKING ZEE'S, AND SHALL BE REFLECTORIZED AS INDICATED. SEE STANDARDS S-614-21B AND S-614-22C.
4. PANELS FOR CLASS III SIGNS SHALL BE EITHER LAMINATED ALUMINUM, EXTRUDED ALUMINUM, OR SHEET ALUMINUM. SEE STANDARDS S-614-23C, S-614-24B AND S-614-25C.
5. CLASS III SIGNS WITH A GREEN OR BLUE BACKGROUND SHALL BE FABRICATED FROM EITHER LAMINATED ALUMINUM OR SHEET ALUMINUM AND SHALL HAVE A REFLECTORIZED BACKGROUND. CLASS III SIGNS WITH A BLACK BACKGROUND SHALL BE FABRICATED FROM EITHER LAMINATED ALUMINUM OR EXTRUDED ALUMINUM AND SHALL HAVE A PORCELAIN ENAMELED BACKGROUND.
6. LEGEND AND BORDER ON ALL CLASS III SIGNS SHALL BE WHITE CUTOUT ALUMINUM WITH REFLEX REFLECTORS OR APPROVED ALTERNATE.
7. FOR TYPICAL GROUND SIGN PLACEMENT, SEE STANDARD S-614-19B.
8. FOR DETAILS OF SIGN SUPPORTS FOR GROUND SIGNS SEE STANDARD S-614-26C.
9. FOR DETAILS OF FOOTINGS, PEDESTALS, AND SIGN ISLANDS SEE STANDARD S-614-27C.
10. POST LENGTHS ARE APPROXIMATE ONLY. EXACT LENGTHS TO BE DETERMINED BY THE ENGINEER.

FINAL TABULATION OF SIGNS

SIGN NO.	SIGN CODE	STATION	SIGN PANEL SIZE	BACK-GROUND COLOR	REMOVE		RSET GROUND SIGN (EACH)	MODIFY		NO. OF POSTS	LENGTH OF POST	POST TYPE (LIN. FT.)										CONC FOOTING TYPE (EACH)						SIGN PANEL (SQ. FT.)										
					GROUND SIGN (EACH)	SIGN STRUCTURE (EACH)		TIMBER SIGN POST (EACH)	STEEL SIGN POST (EACH)			4x4 TIMBER	6x6 TIMBER	W6x12 BEAM	W6x15.5 BEAM	W6x17 BEAM	W8x20 BEAM	W10x21 BEAM	W10x25 BEAM	W12x31 BEAM	S4x7.7 POST	U-2	2	3	5	6	CLASS I	CLASS II	CLASS III									
100A	IR2-1(50)		4'x5'	WHITE																												20.00						
100B	IR2-1(40) PLAQUE	401+50	4'x2'-6"	WHITE	MOUNT ON CONCRETE		MOUNT ON CONCRETE			1	12'																					10.00						
100C	IR2-1(55)		4'x5'	WHITE																												20.00						
101		402+50																														20.00						
102	SPECIAL	391+00	9'x6'	BLUE						1	13'-0" 15'-6"					28.5																	54.00					
103	MILEPOST	396+70	12'x48"	GREEN						1	11'																						4.00					
104	SPECIAL	399+00	12'x9'	WHITE						1	16'-0" 17'-6"					33.5																		108.00				
105A	IR2-1(50)	400+50	4'x5'	WHITE						1	18'-6"			18.5																			20.00					
105B	IR2-1(40) PLAQUE		4'x2'-6"	WHITE																														10.00				
106		402+30																																				
* 107	IW4-2(R)	405+50	DIAMOND 48" SIDES	ORANGE																														16.00				
* 108	IW4-2(R)	406+50	DIAMOND 48" SIDES	ORANGE																														16.00				
109	SR5-1	OPP 27+75	30"x30"	WHITE						1	14'	14																						6.25				
110	SR5-1	OPP 27+80	30"x30"	WHITE						1	14'	14																						6.25				
111	SR6-1(L)	OPP 28+30	36"x12"	BLACK						1	13'	13.5																							3.00			
112	SR5-9	OPP 28+95	36"x24"	RED						1	13'-6"	13.5																						6.00				
113	SR5-9	OPP 29+10	36"x24"	RED						1	13'-6"	13.5																						6.00				
114		29+25																																				
115		409+00																																				
116	IW3-3(20)	415+45	4'x5'	YELLOW						1	18'-6"	18.5																							20.00			
117	IW3-3	417+40	DIAMOND 48" SIDES	YELLOW						1	18'-6"	18.5																							16.00			
118	SPECIAL	416+95	9'x6'	BLUE						2	**20'	40																							54.00			
119	SR5-9	OPP 417+10	36"x24"	RED						1	13'-6"	13.5																							6.00			
120	SR5-9	OPP 417+30	36"x24"	RED						1	13'-6"	13.5																							6.00			
121		417+40																																				
122	SR5-1	OPP 418+50	30"x30"	WHITE						1	14'	14																								6.25		
123	SR5-1	OPP 418+50	30"x30"	WHITE						1	14'	14																								6.25		
124	IW4-1(R)	29+00	DIAMOND 48" SIDES	YELLOW						1	18'-6"	18.5																								16.00		
125		31+50																																				
126	SR7-4	13+00 LOOP ROAD	12"x18"	WHITE						1	13'-6"																									1.50		
127	SPECIAL	11+30 LOOP ROAD	2'x1'-6"	WHITE																																3.00		
128	SR5-1	30+40	30"x30"	WHITE						1	14'	14																								6.25		
129		OPP 30+50																																				
130		32+00																																				
131	SR7-4	4+00 LOOP ROAD	12"x18"	WHITE						1	13'-6"																									1.50		
132		35+90																																				

Reset Ground Sign & Placed New Panel

Delete -> 3.00

* LEFT IN PLACE

DELETE

* THESE ITEMS ARE TO BE DELIVERED TO THE TUNNEL MAINTENANCE SUPERINTENDENT. ** POSTS TO BE SET 6' INTO THE GROUND.

NOTES:

- SEE PLANS FOR FABRICATION DETAILS OF REGULATORY SIGNS, WARNING SIGNS, ROUTE MARKERS, AND AUXILIARY MARKERS.
- PANELS FOR CLASS I SIGNS SHALL BE EITHER SINGLE SHEET ALUMINUM OR SINGLE SHEET STEEL AND SHALL BE REFLECTORIZED AS INDICATED. SEE STANDARD S-614-20B.
- PANELS FOR CLASS II SIGNS SHALL BE EITHER SINGLE SHEET ALUMINUM OR SINGLE SHEET STEEL, SHALL HAVE BACKING ZEES, AND SHALL BE REFLECTORIZED AS INDICATED. SEE STANDARDS S-614-21B AND S-614-22C.
- PANELS FOR CLASS III SIGNS SHALL BE EITHER LAMINATED ALUMINUM, EXTRUDED ALUMINUM, OR SHEET ALUMINUM. SEE STANDARDS S-614-23C, S-614-24B AND S-614-25C.
- CLASS III SIGNS WITH A GREEN OR BLUE BACKGROUND SHALL BE FABRICATED FROM EITHER LAMINATED ALUMINUM OR SHEET ALUMINUM AND SHALL HAVE A REFLECTORIZED BACKGROUND. CLASS III SIGNS WITH A BLACK BACKGROUND SHALL BE FABRICATED FROM EITHER LAMINATED ALUMINUM OR EXTRUDED ALUMINUM AND SHALL HAVE A PORCELAIN ENAMELED BACKGROUND.
- LEGEND AND BORDER ON ALL CLASS III SIGNS SHALL BE WHITE CUTOUT ALUMINUM WITH REFLEX REFLECTORS OR APPROVED ALTERNATE.
- FOR TYPICAL GROUND SIGN PLACEMENT, SEE STANDARD S-614-19B.
- FOR DETAILS OF SIGN SUPPORTS FOR GROUND SIGNS SEE STANDARD S-614-26C.
- FOR DETAILS OF FOOTINGS, PEDESTALS, AND SIGN ISLANDS SEE STANDARD S-614-27C.
- POST LENGTHS ARE APPROXIMATE ONLY. EXACT LENGTHS TO BE DETERMINED BY THE ENGINEER.

FINAL TABULATION OF SIGNS

SIGN NO.	SIGN CODE	STATION	SIGN PANEL SIZE	BACK-GROUND COLOR	REMOVE GROUND SIGN STRUCTURE (EACH)	RESET GROUND SIGN (EACH)	MODIFY		NO. OF POSTS	LENGTH OF POST	POST TYPE (LIN. FT.)									CONC. FOOTING TYPE (EACH)						SIGN PANEL (SQ. FT.)							
							TIMBER SIGN POST (EACH)	STEEL SIGN POST (EACH)			4x4	6x6	W6x12	W6x15.5	W8x17	W8x20	W10x21	W10x25	W12x31	54x77 POST	U-2	2	3	5	6	CLASS I	CLASS II	CLASS III					
133	SR7-4	6+00 LOOP ROAD	12"x18"	WHITE					1	13'-6"																				1.50			
134	SW8-10	7+00 LOOP ROAD	DIAMOND 30" SIDES	YELLOW					1	14'-6"	14.5																		6.25				
155	SR7-4	8+00 LOOP ROAD	12"x18"	WHITE					1	13'-6"																			1.50				
136	SR7-4	10+00 LOOP ROAD	12"x18"	WHITE					1	13'-6"																			1.50				
137	SR7-4	11+50 LOOP ROAD	12"x18"	WHITE					1	13'-6"																			1.50				
* 138	IR4-7	30+00	4'x5'	WHITE					SEE "TABULATION OF SIGNING QUANTITIES" SHEET FOR MOUNTING DETAILS																			20.00					
* 139	IR4-1	33+50	4'x5'	WHITE					SEE "TABULATION OF SIGNING QUANTITIES" SHEET FOR MOUNTING DETAILS																			20.00					
* 140		413+70 TO 132+40 TO	429+95 AND 139+00						TRAFFIC CONE (28 INCH) (40 EACH)																								
* 141	IR4-1	130+00	4'x5'	WHITE					SEE "TABULATION OF SIGNING QUANTITIES" SHEET FOR MOUNTING DETAILS																			20.00					
* 142	IR4-7	132+00 AH.	4'x5'	WHITE					SEE "TABULATION OF SIGNING QUANTITIES" SHEET FOR MOUNTING DETAILS																			20.00					
143	SPECIAL	319+60 LOOP ROAD	2'x1'-6"	WHITE																										3.00			
144	SPECIAL	326+75 LOOP ROAD	2'x1'-6"	WHITE																										3.00			
145		131+50							1																								
146	SR5-1	132+90	30"x30"	WHITE					1	14'	14																			6.25			
147		OPP. 132+80							1																								
148		132+00 AH.																															
149		133+00							1																								
150		134+00							1	16'-6"	16.5																						
151		OPP. 137+00							1																								
152		OPP. 137+00							1																								
153	SR5-9	OPP. 138+70	36"x24"	RED					1	13'-6"	13.5																			6.00			
154		139+00							1																								
155	SRI-2	131+95	TRIANGLE 36" SIDES	WHITE					1	14'-6"	14.5																			3.90			
156A	SR3-2	336+50 LOOP ROAD	24"x24"	WHITE					1	14'	14																			4.00			
156B	SR5-1		30"x30"	WHITE																										6.25			
157A	SPECIAL	132+85	9'x6'	BLUE					2	**20	40																			54.00			
157B	SR5-1		30"x30"	WHITE																										6.25			
158	IW4-1(R)	134+00	DIAMOND 48" SIDES	YELLOW					1	18'-6"	18.5																			16.00			
159A	SPECIAL	135+00	9'x2'	GREEN					1	21'-6"																				18.00			
159B	SPECIAL		12'x11'	GREEN					1	22'-0"																					132.00		
160		138+10							1																								
161	IW3-3	138+20	DIAMOND 48" SIDES	YELLOW					1	18'-6"	18.5																			16.00			
* 162	IW4-2(L)	144+75	DIAMOND 48" SIDES	ORANGE					SEE "TABULATION OF SIGNING QUANTITIES" SHEET FOR MOUNTING DETAIL																			16.00					
* 163	IW4-2(L)	145+75	DIAMOND 48" SIDES	ORANGE					SEE "TABULATION OF SIGNING QUANTITIES" SHEET FOR MOUNTING DETAIL																			16.00					
164		148+97							RESET OVERHEIGHT VEHICLE DETECTOR.																								

* THESE ITEMS ARE TO BE DELIVERED TO THE TUNNEL MAINTENANCE SUPERINTENDENT. ** POSTS TO BE SET 6' INTO THE GROUND.

NOTES:

1. SEE PLANS FOR FABRICATION DETAILS OF REGULATORY SIGNS, WARNING SIGNS, ROUTE MARKERS, AND AUXILIARY MARKERS.
2. PANELS FOR CLASS I SIGNS SHALL BE EITHER SINGLE SHEET ALUMINUM OR SINGLE SHEET STEEL AND SHALL BE REFLECTORIZED AS INDICATED. SEE STANDARD S-614-20B.
3. PANELS FOR CLASS II SIGNS SHALL BE EITHER SINGLE SHEET ALUMINUM OR SINGLE SHEET STEEL, SHALL HAVE BACKING ZEEs, AND SHALL BE REFLECTORIZED AS INDICATED. SEE STANDARDS S-614-21B AND S-614-22C.
4. PANELS FOR CLASS III SIGNS SHALL BE EITHER LAMINATED ALUMINUM, EXTRUDED ALUMINUM, OR SHEET ALUMINUM. SEE STANDARDS S-614-23C, S-614-24B AND S-614-25C.
5. CLASS III SIGNS WITH A GREEN OR BLUE BACKGROUND SHALL BE FABRICATED FROM EITHER LAMINATED ALUMINUM OR SHEET ALUMINUM AND SHALL HAVE A REFLECTORIZED BACKGROUND. CLASS III SIGNS WITH A BLACK BACKGROUND SHALL BE FABRICATED FROM EITHER LAMINATED ALUMINUM OR EXTRUDED ALUMINUM AND SHALL HAVE A PORCELAIN ENAMELED BACKGROUND.
6. LEGEND AND BORDER ON ALL CLASS III SIGNS SHALL BE WHITE CUTOUT ALUMINUM WITH REFLEX REFLECTORS OR APPROVED ALTERNATE.
7. FOR TYPICAL GROUND SIGN PLACEMENT, SEE STANDARD S-614-19B.
8. FOR DETAILS OF SIGN SUPPORTS FOR GROUND SIGNS SEE STANDARD S-614-26C.
9. FOR DETAILS OF FOOTINGS, PEDESTALS, AND SIGN ISLANDS SEE STANDARD S-614-27C.
10. POST LENGTHS ARE APPROXIMATE ONLY. EXACT LENGTHS TO BE DETERMINED BY THE ENGINEER.

FINAL TABULATION OF SIGNS

AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS <input type="checkbox"/> REVISED <u>2-22-70</u> VOID <input type="checkbox"/>			VIII	COLORADO	I70-3(84) 220	68	102

SIGN NO.	SIGN CODE	STATION	SIGN PANEL SIZE	BACK-GROUND COLOR	REMOVE SIGN		RESET	MODIFY		NO. OF POSTS	LENGTH OF POST	POST TYPE (LIN. FT.)										CONC. FOOTING TYPE (EACH)						SIGN PANEL (SQ. FT.)								
					GROUND SIGN (EACH)	SIGN STRUCTURE (EACH)	GROUND SIGN (EACH)	TIMBER SIGN POST (EACH)	STEEL SIGN POST (EACH)			4x4 TIMBER	6x6 TIMBER	W6x12 BEAM	W6x15.5 BEAM	W8x17 BEAM	W8x20 BEAM	W10x21 BEAM	W10x25 BEAM	W12x31 BEAM	S4x7.7 POST	U-2	2	3	5	6	CLASS I	CLASS II	CLASS III							
193	SR5-9	17 + 60 NORTH RAMP	36"x24"	RED								MOUNT ON EXISTING SIGN POST																						6.00		
194A	SPECIAL	200+00	12' x 2'	GREEN							1	16'-6"																						24.00		
194B	SPECIAL		15' x 9'	GREEN								1	20'-0"																					135.00		
195	SPECIAL	201+00	4' x 3'	WHITE							1	16'-6"	16.5																				12.00			
196		210+00					1				1	15'-0"																								
197		220+00					1				1	15'-6"																								
74		140~ Rt.					1				1	15'-0"																						26		
PROJECT TOTALS							21						220.0	220.0	405.0		68.5	33.5			82.0	43.5		24	211.0		6	2		6		2	201.0	484.4	850.0	

NOTES:

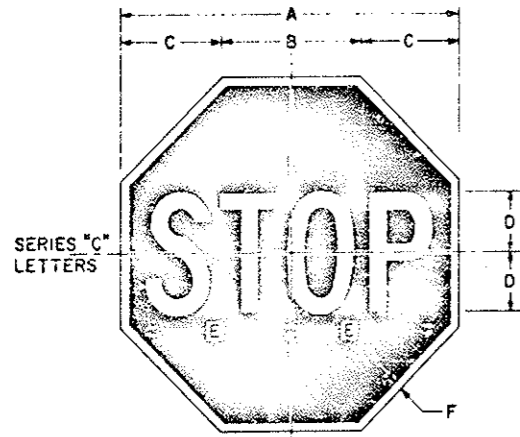
- | | | |
|---|--|---|
| <p>1. SEE PLANS FOR FABRICATION DETAILS OF REGULATORY SIGNS, WARNING SIGNS, ROUTE MARKERS, AND AUXILIARY MARKERS.</p> <p>2. PANELS FOR CLASS I SIGNS SHALL BE EITHER SINGLE SHEET ALUMINUM OR SINGLE SHEET STEEL AND SHALL BE REFLECTORIZED AS INDICATED. SEE STANDARD S-614-208.</p> <p>3. PANELS FOR CLASS II SIGNS SHALL BE EITHER SINGLE SHEET ALUMINUM OR SINGLE SHEET STEEL, SHALL HAVE BACKING ZEES, AND SHALL BE REFLECTORIZED AS INDICATED. SEE STANDARDS S-614-21B AND S-614-22C.</p> | <p>4. PANELS FOR CLASS III SIGNS SHALL BE EITHER LAMINATED ALUMINUM, EXTRUDED ALUMINUM, OR SHEET ALUMINUM. SEE STANDARDS S-614-23C, S-614-24B AND S-614-25C.</p> <p>5. CLASS III SIGNS WITH A GREEN OR BLUE BACKGROUND SHALL BE FABRICATED FROM EITHER LAMINATED ALUMINUM OR SHEET ALUMINUM AND SHALL HAVE A REFLECTORIZED BACKGROUND. CLASS III SIGNS WITH A BLACK BACKGROUND SHALL BE FABRICATED FROM EITHER LAMINATED ALUMINUM OR EXTRUDED ALUMINUM AND SHALL HAVE A PORCELAIN ENAMELED BACKGROUND.</p> | <p>6. LEGEND AND BORDER ON ALL CLASS III SIGNS SHALL BE WHITE CUTOUT ALUMINUM WITH REFLEX REFLECTORS OR APPROVED ALTERNATE.</p> <p>7. FOR TYPICAL GROUND SIGN PLACEMENT, SEE STANDARD S-614-19B.</p> <p>8. FOR DETAILS OF SIGN SUPPORTS FOR GROUND SIGNS SEE STANDARD S-614-26C.</p> <p>9. FOR DETAILS OF FOOTINGS, PEDESTALS, AND SIGN ISLANDS SEE STANDARD S-614-27C.</p> <p>10. POST LENGTHS ARE APPROXIMATE ONLY. EXACT LENGTHS TO BE DETERMINED BY THE ENGINEER.</p> |
|---|--|---|

UNIFORM STANDARD REGULATORY SIGNS

FEDERAL ROAD REGION NO	DISTRICT	PROJ NO	SHEET NO	TOTAL SHEETS
VIII	COLORADO	I70-3(84)220	70	102

AS CONSTRUCTED

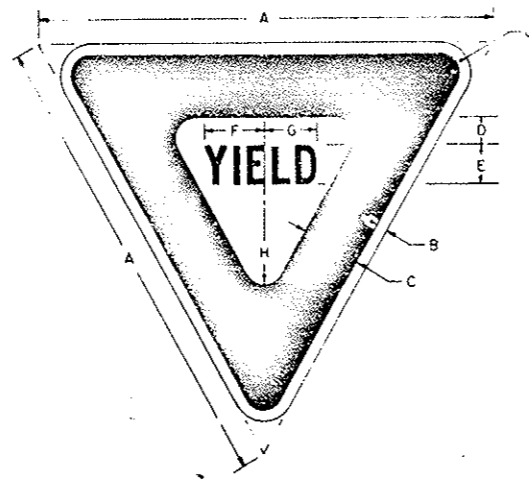
NO REVISIONS	12-22-80	REVISED	VOID
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SERIES "C"
LETTERS

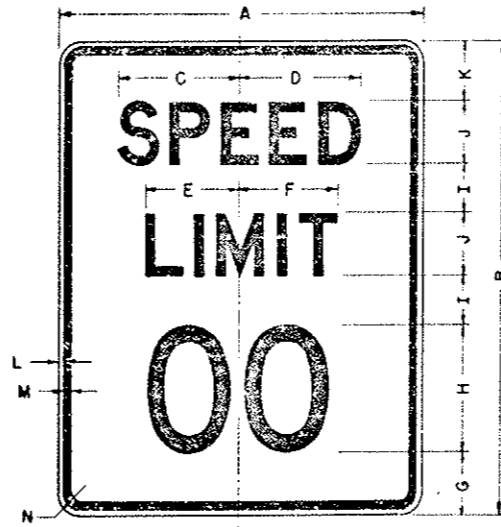
CODE	A	B	C	D	E	F
CR1-1	24"	9 1/8"	7 1/4"	4"	10 1/4"	1 1/2"
SR1-1	30"	12 3/4"	8 3/4"	5"	12 3/4"	2 1/4"
XR1-1	48"	19 1/4"	14 1/4"	8"	20 1/4"	4"

Legend and border - ReflectORIZED white.
Background - ReflectORIZED red (Reverse screened on reflective sheeting)



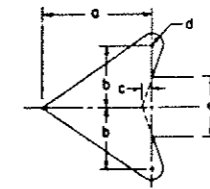
CODE	A	B	C	D	E	F	G	H	J
SR1-2	36"	3 1/2"	5"	2"	3C	4 3/8"	4 1/2"	1 1/4"	2"
XR1-2	48"	1"	6"	2 1/2"	4C	6 1/8"	5 3/8"	2"	3"
IR1-2	60"	1 1/2"	8"	3 1/2"	5C	7 3/8"	7 1/4"	2 1/2"	4"

Background - ReflectORIZED White
Legend and Border - ReflectORIZED Red (Reverse screened on reflective sheeting)

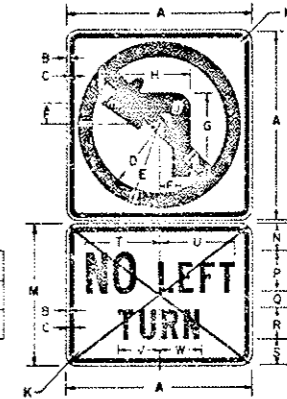


CODE	A	B	C	D	E	F	G	H	I	J	K	L	M	N
CR2-1(-)	18"	24"	7 3/8"	7 3/8"	5 7/8"	6"	2 3/8"	6" 0"	1 1/2"	4" 10"	2 3/8"	1 1/8"	9 7/8"	1 1/2"
SR2-1(-)	24"	30"	9 3/8"	9 3/8"	7 1/4"	7 1/4"	4"	10" E	2"	4" E	4"	2"	8"	1 1/2"
XR2-1(-)	36"	48"	14"	14 1/2"	10 3/4"	11 3/8"	7 1/2"	14" E	4 1/2"	6" E	5 1/2"	2"	7"	2"
IR2-1(-)	48"	60"	15 3/8"	15 3/8"	12 3/4"	12 3/4"	8"	16" E	6 1/2"	8" D	7 1/2"	3 1/4"	7"	3"

Legend and border - Screen processed black.
Background - ReflectORIZED white.



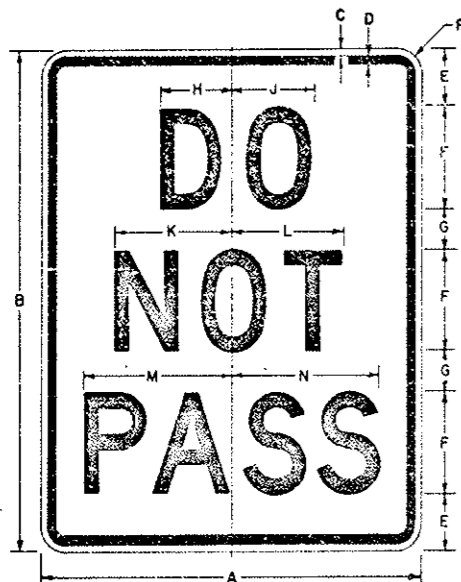
ARROW DETAILS	a	b	c	d	e
SR3-2	4 1/8"	2 5/8"	3/8"	1 1/2"	2 1/2"
XR3-2	7 1/8"	3 15/16"	3/8"	3/4"	3 3/4"



Background - ReflectORIZED White
Circle and Diagonal - ReflectORIZED Red
Legend and Border - Screen Processed Black

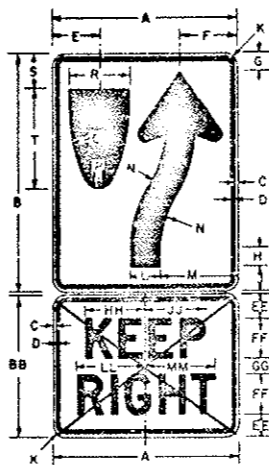
SYMBOL PANEL	A	B	C	D	E	F	G	H	J	K	L
SR3-2	24"	3 3/8"	3 3/8"	8 1/2"	10 1/2"	2 1/4"	10 1/2"	11 1/2"	2"	1 1/2"	2"
XR3-2	36"	5 3/8"	5 3/8"	12 3/4"	15 3/4"	4 1/8"	15 3/4"	17 1/4"	3"	2 1/4"	3"

ROAD PANEL	M	N	P	Q	R	S	T	U	V	W
ESR3-2	18"	3 1/2"	5C		3 1/2"	9 3/8"	9 3/8"	5 1/4"	5 1/8"	
EXR3-2	24"	4"	7C	3	6C	4	13 3/8"	13 3/8"	8 1/2"	8"



CODE	A	B	C	D	E	F	G	H	J	K	L	M	N	P
CR4-1	18"	24"	3 1/2"	40"	2 1/2"	3 3/8"	4 1/4"	4 1/4"	6 1/2"	6 1/2"	1 1/2"	6 1/2"	6 1/2"	1 1/2"
SR4-1	24"	30"	3 1/2"	60"	2 1/2"	4 1/4"	5 1/4"	5 1/4"	7 3/8"	7 3/8"	9 3/8"	9 3/8"	1 1/2"	1 1/2"
XR4-1	36"	48"	3 1/2"	78"	2 1/2"	5 1/4"	6 3/8"	6 3/8"	9 3/8"	9 3/8"	13 1/4"	13 1/4"	1 1/2"	1 1/2"
IR4-1	48"	60"	3 1/2"	100"	2 1/2"	6 1/4"	7 3/8"	7 3/8"	11 1/4"	11 1/4"	15 1/4"	15 1/4"	1 1/2"	1 1/2"

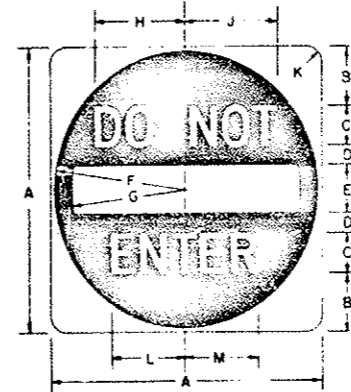
Legend - Black (Non-Ref.)
Background - White (Ref.)



CODE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
CR4-7	18"	24"	3 1/2"	4 1/8"	5 1/4"	1 1/4"	1 1/4"	2 1/4"	1 1/2"	3"	7 1/2"	5 1/4"	1 1/2"	22 1/2"	6"	3 3/8"	9 3/8"	
SR4-7	24"	30"	3 1/2"	6 1/4"	7 3/8"	1 1/4"	1 1/4"	2 1/4"	1 1/2"	4"	10"	7"	2"	30"	8"	4 1/4"	12 1/4"	
XR4-7	36"	48"	3 1/2"	9 1/8"	11 1/8"	1 1/4"	1 1/4"	2 1/4"	1 1/2"	6"	15"	10 1/2"	3"	45"	12"	6 3/8"	18 1/8"	
IR4-7	48"	60"	3 1/2"	12 1/4"	14 1/4"	1 1/4"	1 1/4"	2 1/4"	1 1/2"	8"	20"	14 1/4"	4"	60"	16"	9"	25"	

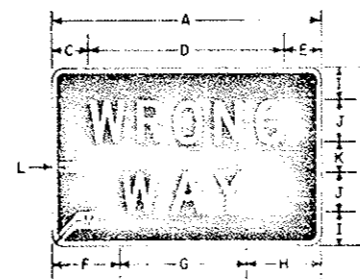
CODE	A	BB	C	D	EE	FF	GG	HH	JJ	KK	LL	MM
ECR4-7	18"	12"	3 1/2"	4D	1 1/4"	4 1/2"	6"	1 1/2"	5 1/8"	5 1/8"		
ESR4-7	24"	18"	3 1/2"	5C	2"	7 1/8"	9 1/8"	1 1/2"	9 3/8"	9 3/8"		
EXR4-7	36"	24"	3 1/2"	7D	3"	10 1/8"	12 1/8"	1 1/2"	12 3/8"	12 3/8"		
EIR4-7	48"	36"	3 1/2"	9D	5"	13 1/8"	14 1/8"	1 1/2"	15 3/8"	15 3/8"		

Legend - Black (Non-Ref.)
Background - White (Ref.)



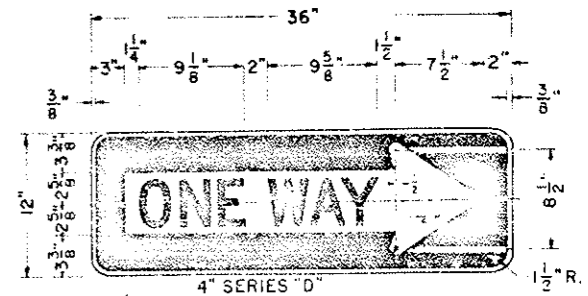
CODE	A	B	C	D	E	F	G	H	J	K	L	M
SR5-1	30"	6 1/2"	4D	2"	5"	14 1/2"	12 1/2"	9 1/2"	9 3/4"	1 1/8"	7 3/4"	7 3/4"
XR5-1	36"	7 1/2"	5D	2 1/2"	6"	17 1/2"	15"	11 1/8"	12 3/4"	2 1/4"	9 1/8"	9 47/64"
IR5-1	48"	11"	6D	3"	8"	23 1/2"	20"	14 1/4"	14 3/8"	3"	11 1/8"	11 31/64"

Background and Legend - ReflectORIZED White
Circle - ReflectORIZED Red (Reverse screened on reflective sheeting)



CODE	A	B	C	D	E	F	G	H	I	J	K	L	M
SR5-1A	24"	6 1/2"	3 1/2"	3 1/2"	2 1/2"	10 1/2"	8 1/2"	6 1/2"	0"	3"	7 1/2"	7 1/2"	
SR5-9	36"	24"	5 1/2"	25 1/2"	5 1/2"	9 1/2"	16 3/4"	9 1/2"	4"	6"	0"	3"	
IR5-9	48"	30"	6 1/2"	35 1/2"	6 1/2"	12 1/2"	23 1/2"	12 1/2"	5 1/2"	7"	0"	5"	

Legend and border - ReflectORIZED white.
Background - ReflectORIZED red (Reverse screened on reflective sheeting.)



SR6-1 (R or L)

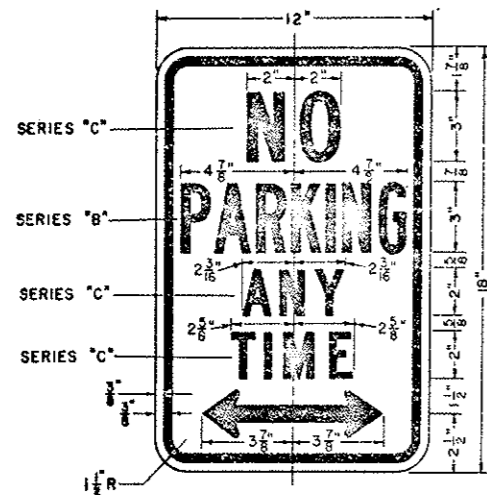
Reverse Arrow Design for Left.
Legend and border area - Screen processed black.
Margin and arrow background - ReflectORIZED white.

NOTES:

- See applicable Standard for installation details: Class I or Class II as denoted in the Tabulation of Signs.
- Galvanized Sheet Steel shall be hot dip Galvanized sheets of structural quality, 0.0598" min thick, Grade A per ASTM Spec. A446-60T, 2 oz. coating class with a light Phosphate coating on surfaces that are to receive reflective sheeting per Federal Spec. TT-C-490 for Galvanized sheets.

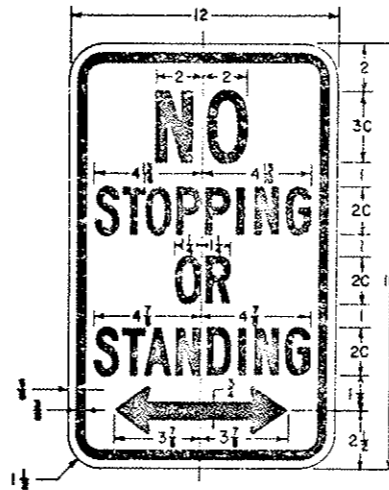
UNIFORM STANDARD REGULATORY SIGNS

FEDERAL ROAD REGION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XXII	COLORADO	I70-3(84)220	71	102
AS CONSTRUCTED				
NO REVISIONS		22-22-62	REVISED	VOID



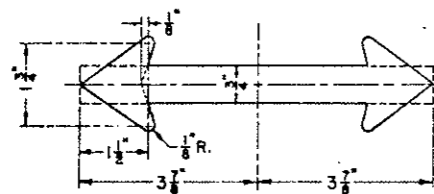
SR7-1

Legend and border are red process paint.
 Background and margin are reflectorized white.



SR7-4

Legend—Red (Non-Ref.)
 Background—White (Ref.)



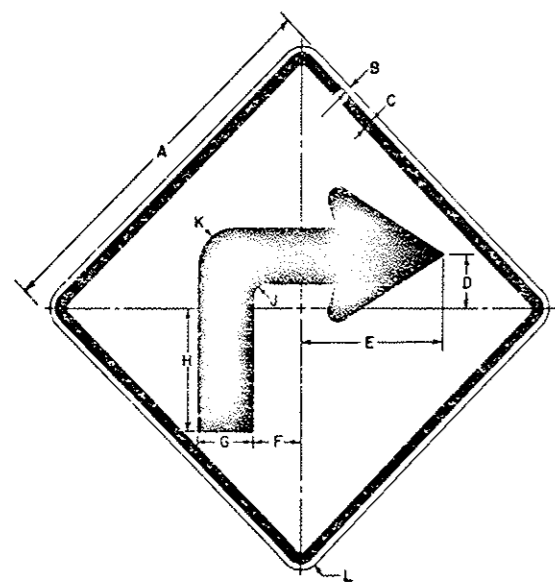
ARROW DETAIL

NOTES

- See applicable Standard for installation details Class I or Class II as denoted in the Tabulation of Signs.
- Galvanized Sheet Steel shall be hot dip Galvanized sheets of structural quality, 0.0598" min thick, Grade A per ASTM Spec A446-60T, 2 oz coating class with a light Phosphate coating on surfaces that are to receive reflective sheeting per Federal Spec TT-C-490 for Galvanized sheets.

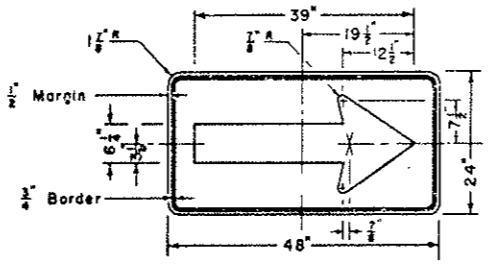
UNIFORM STANDARD WARNING SIGNS

FEDERAL ROAD DISTRICT	PROJ NO	SHEET NO	TOTAL SHEETS
COLO. ROAD DISTRICT	I 70-3(84) 220	72	102
AS CONSTRUCTED			
NO REVISIONS	REVISED	VOID	

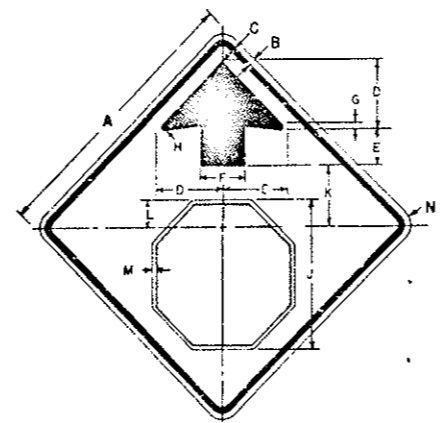


CODE	A	B	C	D	E	F	G	H	J	K	L
CW1-(R)	24	1/2	3/8	3 1/2	9 3/4	3	3 1/2	7 3/4	1 1/8	2 1/2	1 1/2
SW1-(R)	30	1/2	3/8	4 1/2	12	3 3/4	4 3/4	9 1/8	1	3	1 1/2
XW1-(R)	36	1/2	3/8	4 7/8	14 1/2	4 1/2	5 1/2	11 1/8	1 1/4	3 3/8	2 1/2
IW1-(R)	48	3/4	1 1/4	6 1/2	19 3/8	6	7	15 1/2	1 3/8	4 7/8	3

Legend - Black (Non-Ref)
Background - Yellow (Ref)
Reverse arrow design for left (L)



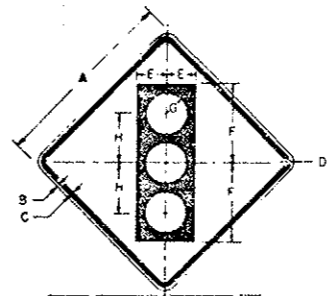
SW1-6



CODE	A	B	C	D	E	F	G	H	J	K	L	M	N
CW3-1a	30	1/2	3/8	7 1/2	3 3/4	5	3 1/8	15 1/2	6 1/4	2 7/8	1 1/2	1 7/8	1 7/8
SW3-1a	36	1/2	3/8	9	4 1/2	6	3 3/8	19 7/8	7 3/8	3 3/8	2 1/4	2 1/4	2 1/4
IW3-1a	48	3/4	1 1/4	12	6	8	1	25 1/2	10	4 1/2	3 3/8	3 3/8	3 3/8

CODE	AA	BB	CC	DD	EE	FF	GG	HH	JJ	KK	LL	MM
ESW3-1a	24	18	3/8	1 1/2	4	4D	2	16 1/2	6 1/2	8 1/2	8 1/2	8 1/2
EIW3-1a	36	24	3/8	1 1/2	4	6D	4	19 1/2	9 1/2	13	13	13

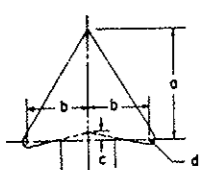
Border and Arrow - Black (Non-Ref)
Symbol - White Border on Red Background (Ref)
Background - Yellow (Ref)



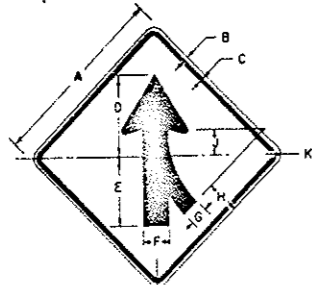
Background - ReflectORIZED
Top Circle - ReflectORIZED Red
Bottom Circle - ReflectORIZED Green
Legend and Border - Screen Processed Black

SYMBOL PANEL	A	B	C	D	E	F	G	H
SW3-3	36	1/2	3/8	2 1/2	9 1/2	15 1/2	4 1/2	10
IW3-3	48	3/4	1 1/4	3	7 1/2	20	5	12 1/2

WORD PANEL	J	K	L	M	N	P	O	R	S	T	U	V
ESW3-3	24	18	3/8	1 1/2	4	4D	2	9 1/2	9 1/2	8 1/2	8 1/2	8 1/2
EIW3-3	36	24	3/8	1 1/2	4	6D	4	13 1/2	13 1/2	13 1/2	13 1/2	13 1/2



ARROW DETAILS	a	b	c	d
SW4-1	8 3/4	5	3/8	2 1/4
IW4-1	14	8	1	1 1/4

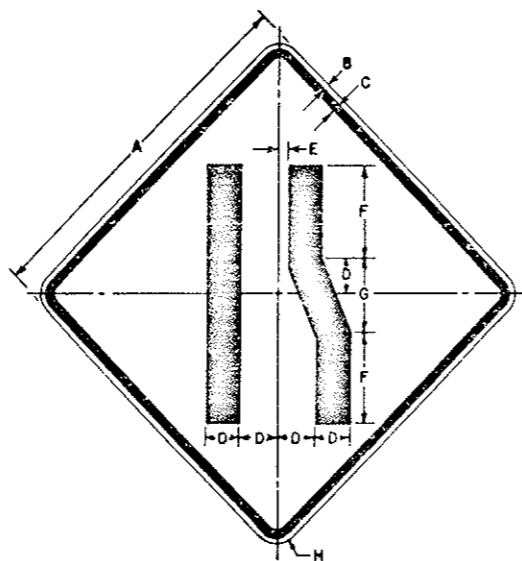


Reverse symbol design for left.

Background - ReflectORIZED Yellow
Legend and Border - Screen Processed Black

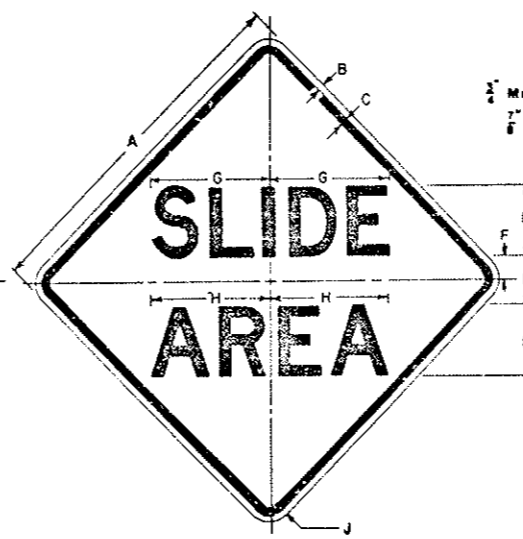
SYMBOL PANEL	A	B	C	D	E	F	G	H	J	K
SW4-1	30	1/2	3/8	13	11	4 3/8	3	5 1/4	4 1/4	2
IW4-1	48	3/4	1 1/4	20 1/2	17 1/2	7	4 3/4	6 3/8	6 1/2	3

WORD PANEL	L	M	N	P	Q	R	S	U		
ESW4-1	24	18	3/8	1 1/2	4	4D	2	10 1/2	10 1/2	1 1/2
EIW4-1	36	24	3/8	1 1/2	4	6C	4	12 1/2	12 1/2	1 1/2



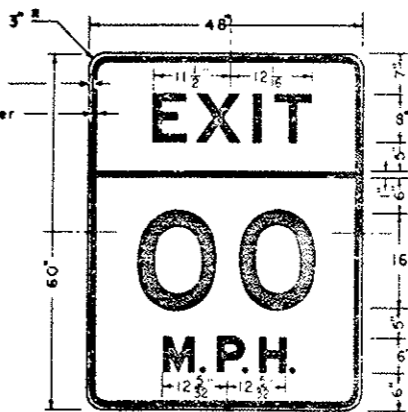
CODE	A	B	C	D	E	F	G	H
CW4-2(R)	30	1/2	3/8	3 3/4	11 1/2	8 1/2	6 3/4	1 1/2
SW4-2(R)	36	1/2	3/8	4	1	10	8	2 1/4
IW4-2(R)	48	3/4	1 1/4	5 3/4	1 1/2	13 1/4	10 3/4	3

Legend - Black (Non-Ref)
Background - Yellow (Ref)
Reverse symbol design for left (L)



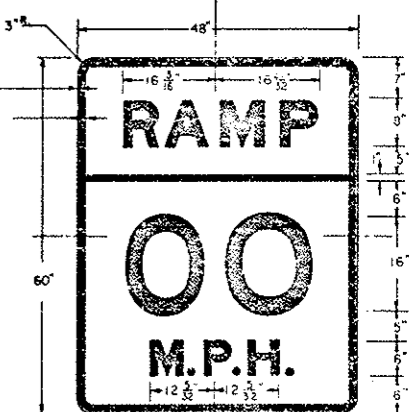
CODE	A	B	C	D	E	F	G	H	J
SW8-10	30	1/2	3/8	6D	4	2	10 7/8	10 3/8	1 1/2
XW8-10	48	3/4	1 1/4	9D	5	2 1/2	15 1/8	15 1/2	3

Legend - Black (Non-Ref)
Background - Yellow (Ref)



Stroke Width of Letters and Numerals is modified to 0.2" per inch of Letter Height.

IW13-2 (-)



Stroke Width of Letters and Numerals is modified to 0.2" per inch of Letter Height.

IW13-3 (-)

NOTES:

- All Warning Signs shall have a Screen Processed Black Legend and Border on a ReflectORIZED Background as shown on the "Tabulation of Signs".
- Galvanized Sheet Steel shall be hot dip Galvanized sheets of structural quality, 0.0598" min. thick, Grade A per ASTM Spec. A 446-60T, 2 oz. coating class with a light Phosphate coating on surfaces that are to receive reflective sheeting per Federal Spec TT-C-490 for Galvanized sheets.
- See applicable Standard for installation details: Class I or Class II as denoted in the Tabulation of Signs.

TYPICAL PANEL ELEVATIONS

AS CONSTRUCTED
NO REVISIONS 12-22-80 REVISIONS VOID

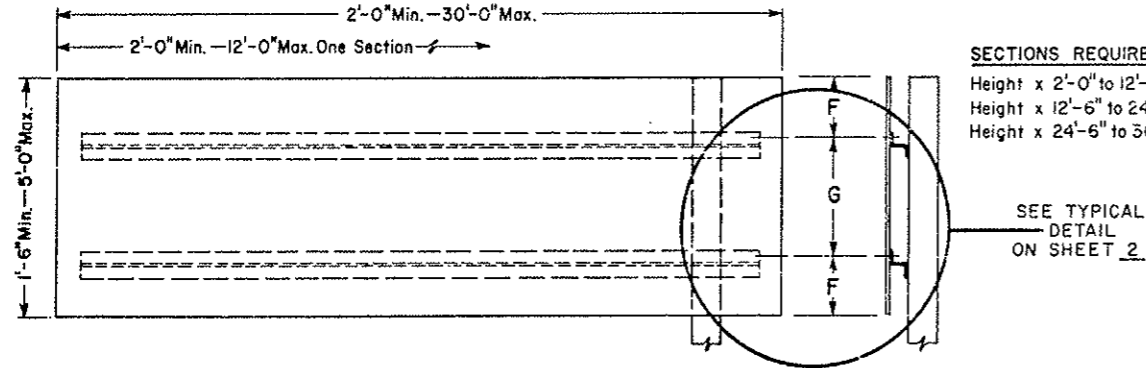
STANDARD S-614-25 C

(SHEET 1 OF 2 SHEETS)
(REV) REVISED FOR THIS PROJECT

FEDERAL ROAD REGION NO. VIII	DISTRICT COLORADO	PROJ. NO. I 70-3(84) 220	SHEET NO. 73	TOTAL SHEETS 102
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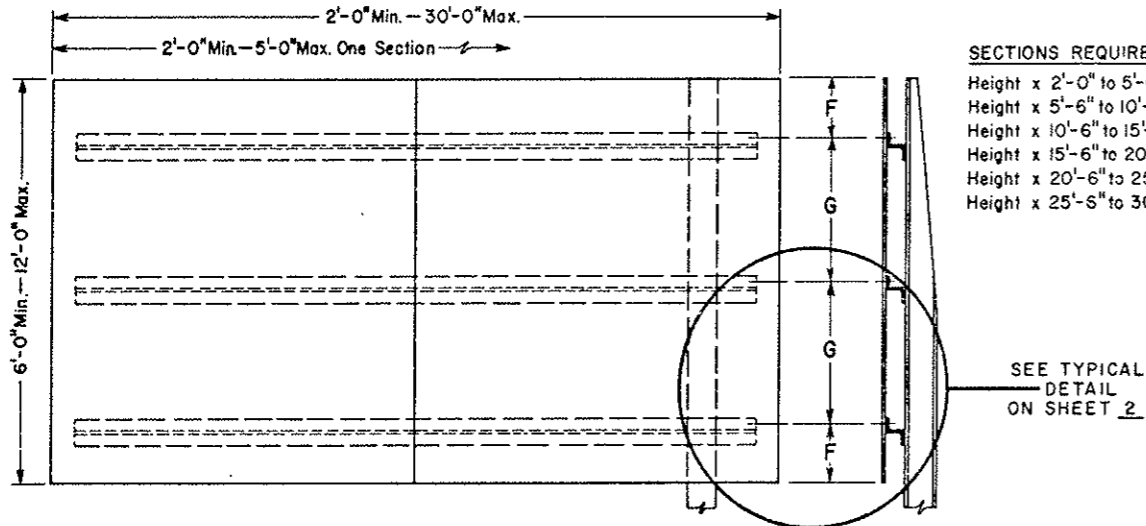
REVISIONS		
(R-1)	5-8-78	Rev Table & Approval J.D.S.

HORIZONTAL SECTIONS



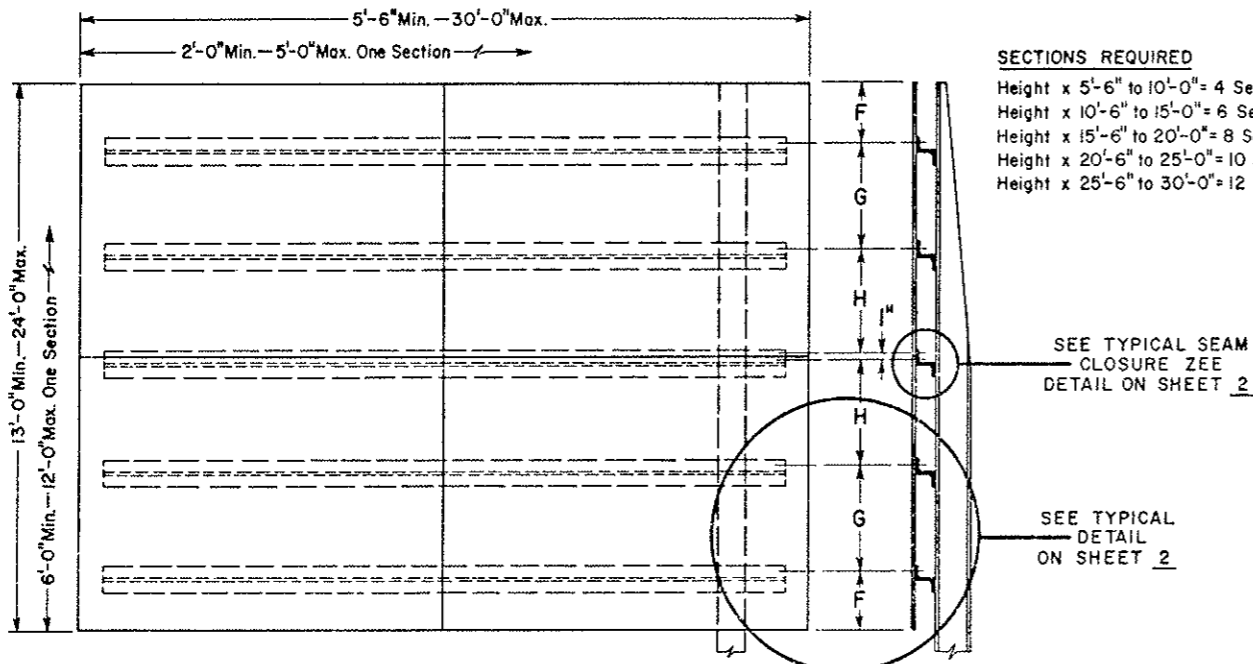
SECTIONS REQUIRED
Height x 2'-0" to 12'-0" = 1 Section
Height x 12'-6" to 24'-0" = 2 Sections
Height x 24'-6" to 30'-0" = 3 Sections

VERTICAL SECTIONS



SECTIONS REQUIRED
Height x 2'-0" to 5'-0" = 1 Section
Height x 5'-6" to 10'-0" = 2 Sections
Height x 10'-6" to 15'-0" = 3 Sections
Height x 15'-6" to 20'-0" = 4 Sections
Height x 20'-6" to 25'-0" = 5 Sections
Height x 25'-6" to 30'-0" = 6 Sections

MULTI-VERTICAL SECTIONS



SECTIONS REQUIRED
Height x 5'-6" to 10'-0" = 4 Sections
Height x 10'-6" to 15'-0" = 6 Sections
Height x 15'-6" to 20'-0" = 8 Sections
Height x 20'-6" to 25'-0" = 10 Sections
Height x 25'-6" to 30'-0" = 12 Sections

GENERAL NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS APPLICABLE TO THE PROJECT.
- SEE THE APPLICABLE STANDARDS FOR SIGN PLACEMENT, FOOTING DETAILS AND POST SPACING TABLE.
- A (No. 6) 90° COUNTERSUNK ALUMINUM LOCKBOLT FASTENER SHALL BE USED TO FASTEN THE SIGN PANEL TO THE BACKING ZEE. A HEX-HEAD BOLT WITH NUT AND WASHERS SHALL BE USED TO FASTEN THE BACKING ZEE TO A TIMBER POST OR TO A STEEL POST.
- A FLAT WASHER SHALL BE PLACED BETWEEN THE BOLT HEAD AND THE BACKING ZEE. A LOCK WASHER SHALL BE PLACED UNDER THE NUT ON A STEEL POST OR A BACKING ZEE. A C.I.O.G. WASHER SHALL BE PLACED UNDER THE BOLT HEAD ON A TIMBER POST.
- THE EXPOSED LOCKBOLT HEADS ON THE FACE OF THE SIGN PANEL SHALL BE COVERED WITH REFLECTIVE SHEETING (TO BE A PART OF THE LOCKBOLT HEAD) TO MATCH THE BACKGROUND COLOR OF THE SIGN.
- ALL EXPOSED SIGN PANEL SECTION JOINTS, EXCEPT THE MULTI-VERTICAL SECTIONS HORIZONTAL SEAM, SHALL BE COVERED ON THE BACKSIDE OF THE SIGN PANEL WITH AN ALUMINUM CLOSURE STRIP. CLOSURE STRIPS SHALL BE BONDED TO THE SIGN PANEL WITH AN EPOXY RESIN WHICH MEETS THE REQUIREMENTS SPECIFIED IN ASTM DESIGNATION - D 1763, PART 9. ALL BONDED SURFACES SHALL BE CLEAN AND FREE OF ANY FOREIGN MATTER.
- SIGN PANELS SHALL BE CONSTRUCTED FROM THE LEAST NUMBER OF SECTIONS. THE SECTIONS SHALL BE AS LARGE AS POSSIBLE AND AS NEARLY EQUAL IN SIZE AS POSSIBLE, ACCORDING TO THE LIMITS SHOWN.
- FOR ADDITIONAL POST AND PANEL INFORMATION SEE THE "TABULATION OF SIGNS" INCLUDED IN THE PLANS.

(REV) SPACING TABLE FOR ALUMINUM BACKING ZEES

SIGN NO.	PANEL SIZE	NO. OF ZEES	ZEE SIZE	OVERHANG "F"	SPACING "G"	SPACING "H"
102	9' x 6'	3	3" x 2 1/8" x 3.38	0'-10"	2'-2"	---
104	12' x 9'	4	3" x 2 1/8" x 2.33	1'-3"	2'-2"	---
118, 157A	9' x 6'	3	3" x 2 1/8" x 2.33	0'-10"	2'-2"	---
159A	9' x 2'	2	3" x 2 1/8" x 2.33	0'-5"	1'-2"	---
159B	12' x 11'	5	3" x 2 1/8" x 2.33	1'-2"	2'-2"	---
167A, 194A	12' x 2'	2	3" x 2 1/8" x 3.38	0'-5"	1'-2"	---
167B, 194B	15' x 9'	4	3" x 2 1/8" x 3.38	1'-3"	2'-2"	---
169	10' x 5'	2	3" x 2 1/8" x 2.33	1'-3"	2'-6"	---
185	6' x 6'	3	3" x 2 1/8" x 2.33	0'-10"	2'-2"	---

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS

SHEET ALUMINUM PANELS FOR CLASS III SIGNS

Designed By: J.D.S.
Made By: F.J.B.
Checked By: J.D.S.

Approved By: *[Signature]*
Staff Traffic & Safety Projects Engineer
Date: May 8, 1978

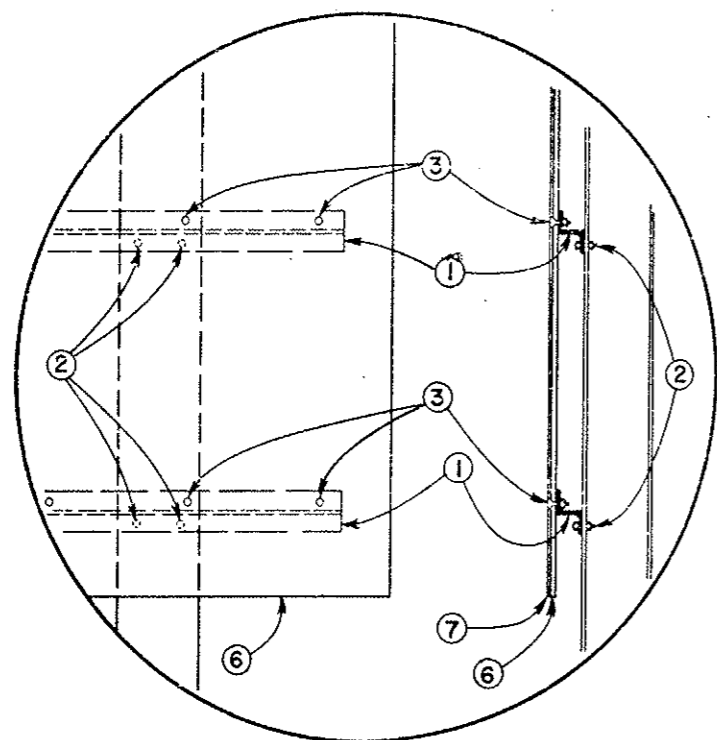
AS CONSTRUCTED			
NO REVISIONS	12-22-76	REVISED	VOID

STANDARD S-614-25 C

(SHEET 2 OF 2 SHEETS)
REVISOR REVISED FOR THIS PROJECT

FEDERAL ROAD DISTRICT	PROJ NO	SHEET NO	TOTAL SHEETS
102	170-3(84) 220	74	102

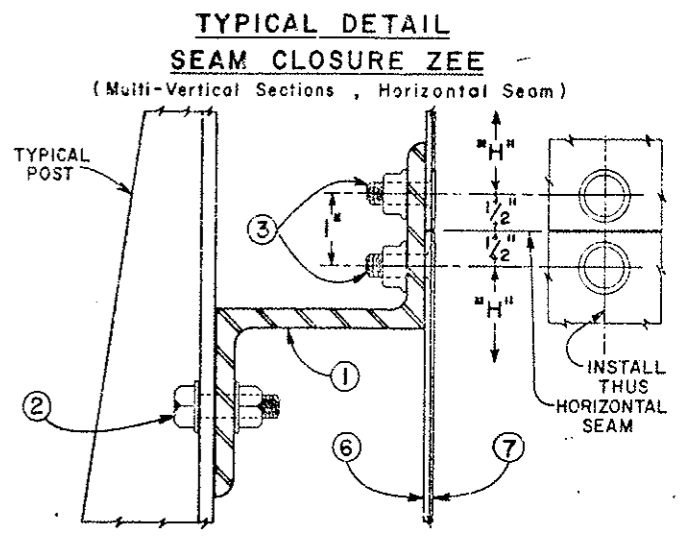
REVISIONS		
(R-1)	5-8-78	Rev. Exit Panel & Approval J.D.S.



TYPICAL ELEVATION DETAIL

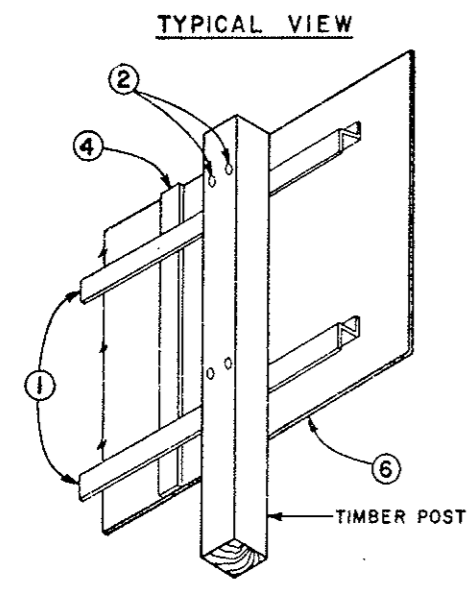
FABRICATION NOTES

- ① BACKING ZEE. See "SPACING TABLE". Aluminum Alloy 6061-T6. Each zee to be provided with a $\frac{3}{16}$ " x 2" horizontal slot for each post mounting bolt. The length of each zee to be 1" less than the sign panel width.
- ② $\frac{3}{8}$ " # HEX-HEAD BOLT. With nut and washers. 2 per backing zee per post are required.
- ③ $\frac{3}{8}$ " (No. 6) 90° COUNTERSUNK ALUMINUM LOCKBOLT FASTENER.
- ④ 2" x 0.080" ALUMINUM CLOSURE STRIP.
- ⑤ $\frac{1}{8}$ " # x $\frac{3}{8}$ " UNIVERSAL-HEAD, HOLLOW SHANK ALUMINUM RIVET.
- ⑥ SHEET ALUMINUM. 0.125" minimum thickness.
- ⑦ NON-EXPOSED LENS REFLECTIVE SHEETING. To have a dry (heat activated) adhesive backing.



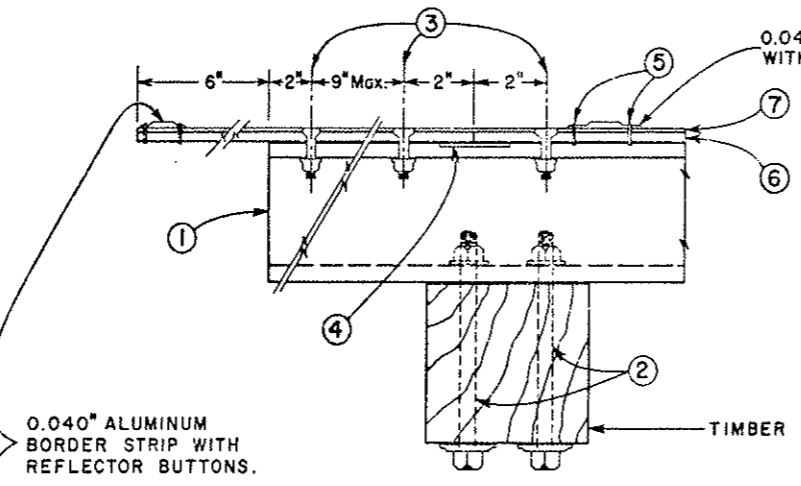
TYPICAL DETAIL SEAM CLOSURE ZEE
(Multi-Vertical Sections, Horizontal Seam)

TYPICAL TIMBER POST INSTALLATION

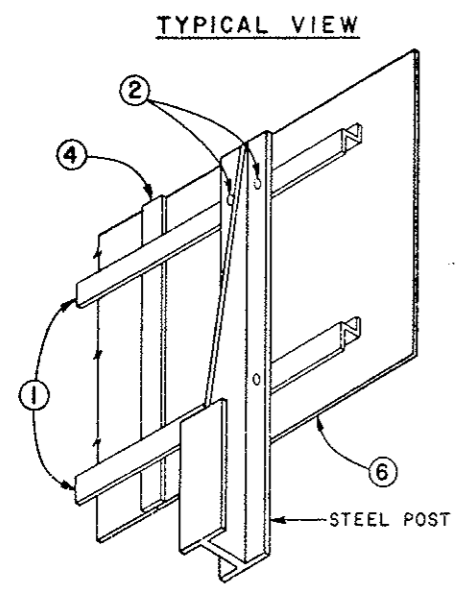


TYPICAL VIEW

PANEL FABRICATION AND MOUNTING DETAILS

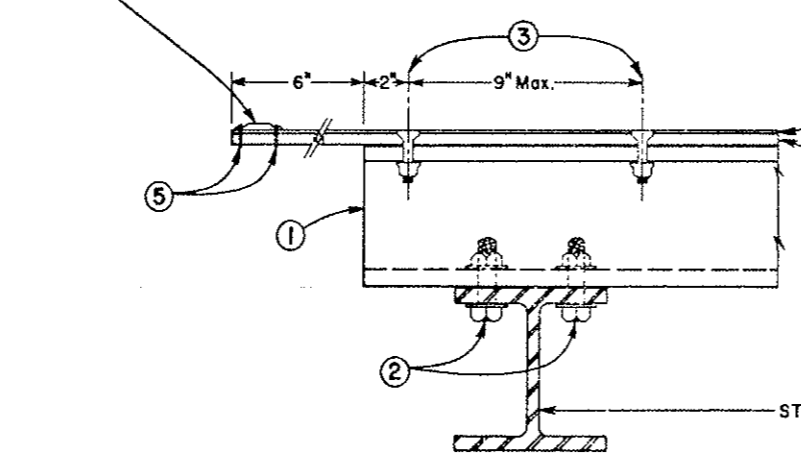


TYPICAL STEEL POST INSTALLATION

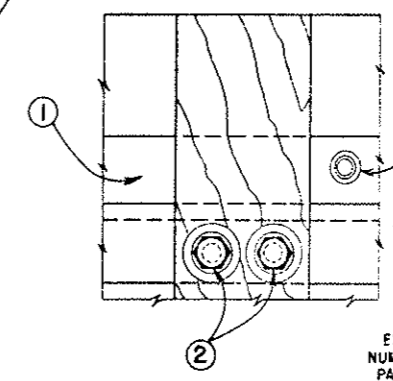
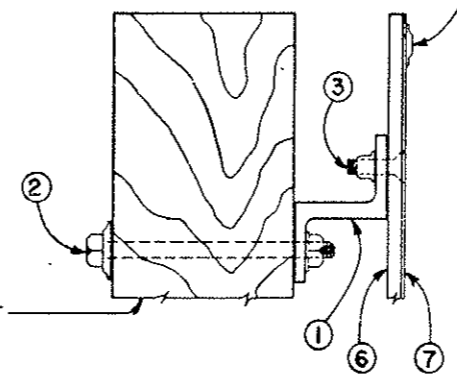


TYPICAL VIEW

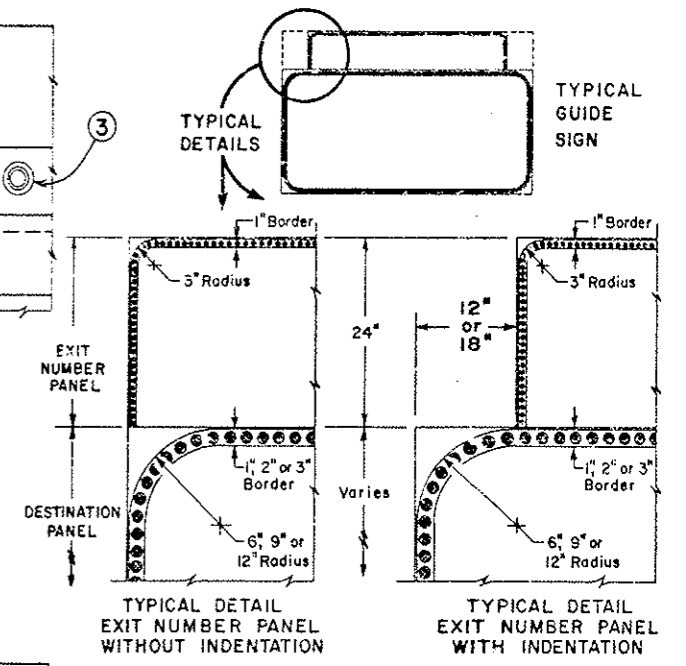
PANEL FABRICATION AND MOUNTING DETAILS



BORDER STRIP



TYPICAL BORDER DETAILS EXIT NUMBER PANELS



TYPICAL DETAIL EXIT NUMBER PANEL WITHOUT INDENTATION

TYPICAL DETAIL EXIT NUMBER PANEL WITH INDENTATION

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS

SHEET ALUMINUM PANELS FOR CLASS III SIGNS

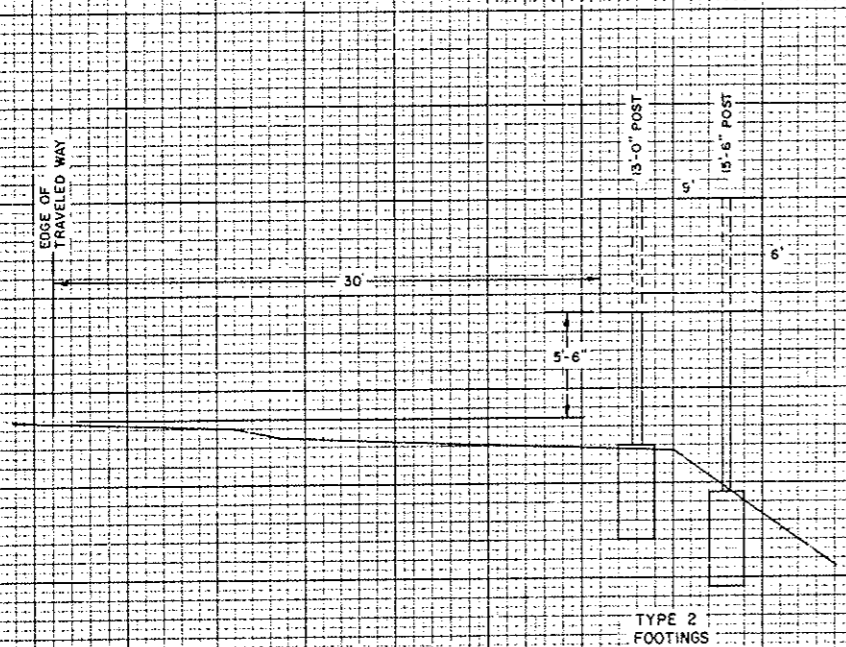
Designed By: J.J.B. Staff Traffic & Safety Projects Engineer
Made By: F.J.B. Safety Projects Engineer
Checked By: J.D.S. Date: May 8, 1978

CROSS SECTIONS AT CLASS III SIGN LOCATIONS

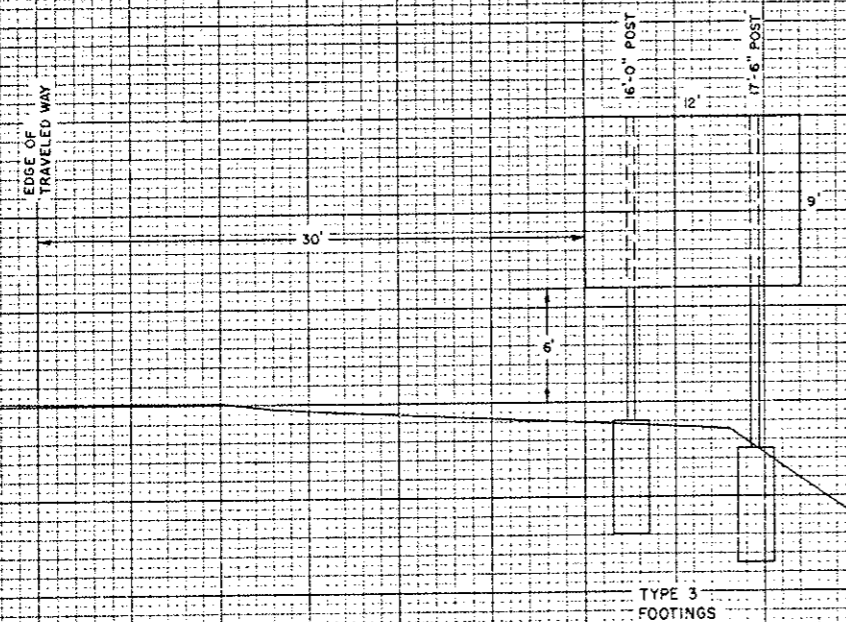
FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
III	COLORADO	I 70-3 (84) 220	75	1
AS CONSTRUCTED				
NO REVISIONS	REVISED	VOID		

DATE	BY
APPROVED	
SURVEY	
NOTE BOOK	
AREAS CHECKED	

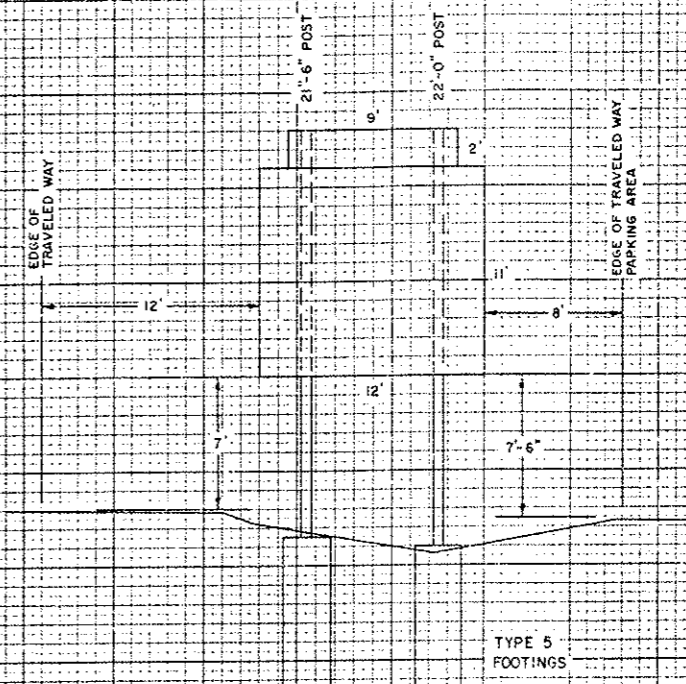
DATE	BY
APPROVED	
SURVEY	
NOTE BOOK	
AREAS CHECKED	



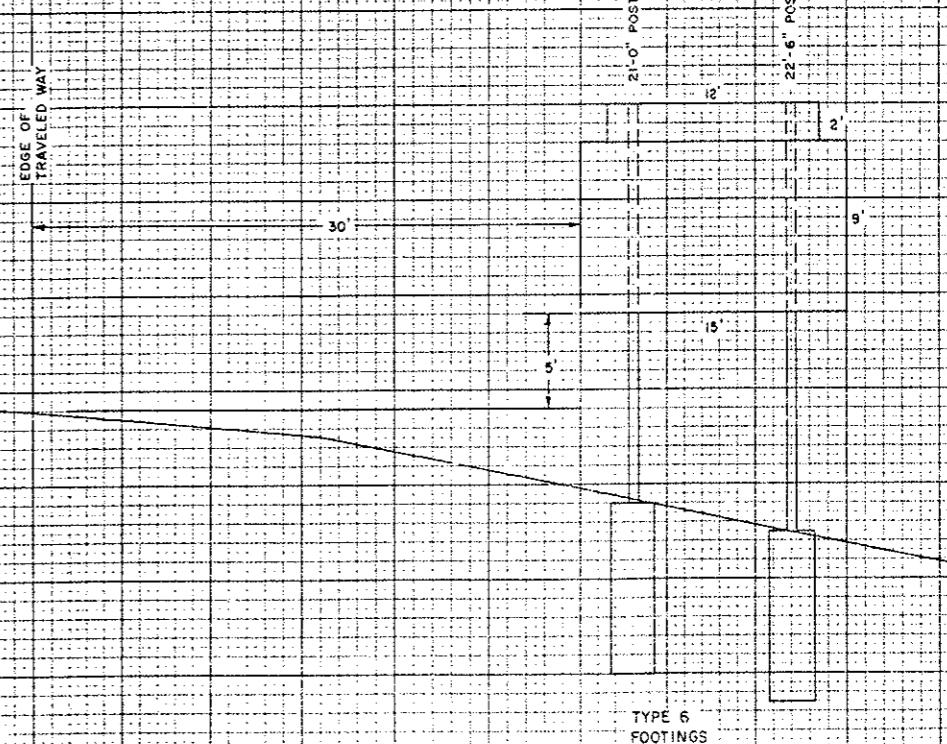
SIGN NO. 102
STA. 391+00



SIGN NO. 104
STA. 399+00



SIGN NO. 159
STA. 135+00



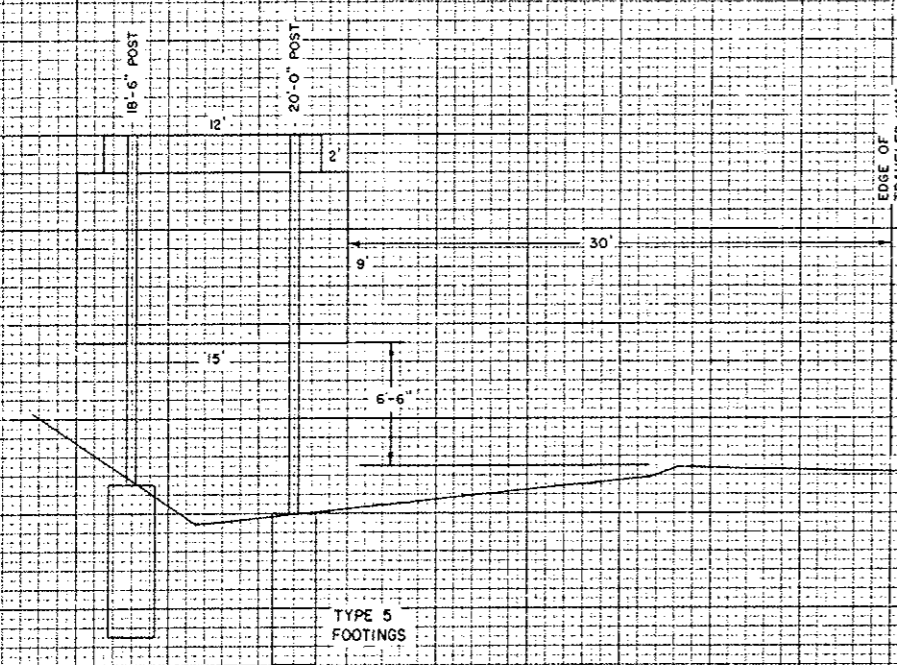
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STA. 146+20

CROSS SECTIONS AT CLASS III SIGN LOCATIONS

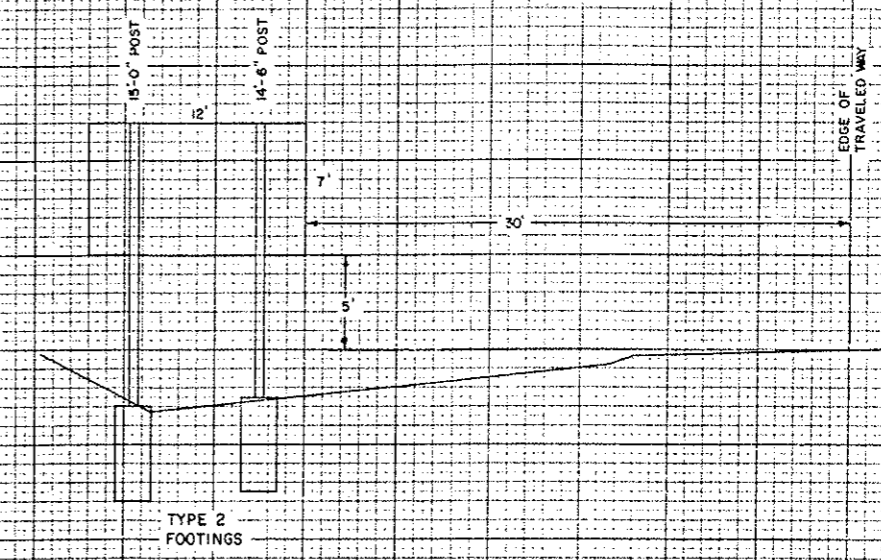
FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XXII	CONCRETE	170-3(84)220	76	100
AS CONSTRUCTED				
NO REVISIONS	22-22	REVISED		VOID

DATE	BY
FINAL SURVEY	
PLOTTED	
NOTE BOOK	
NO.	AREAS CHECKED

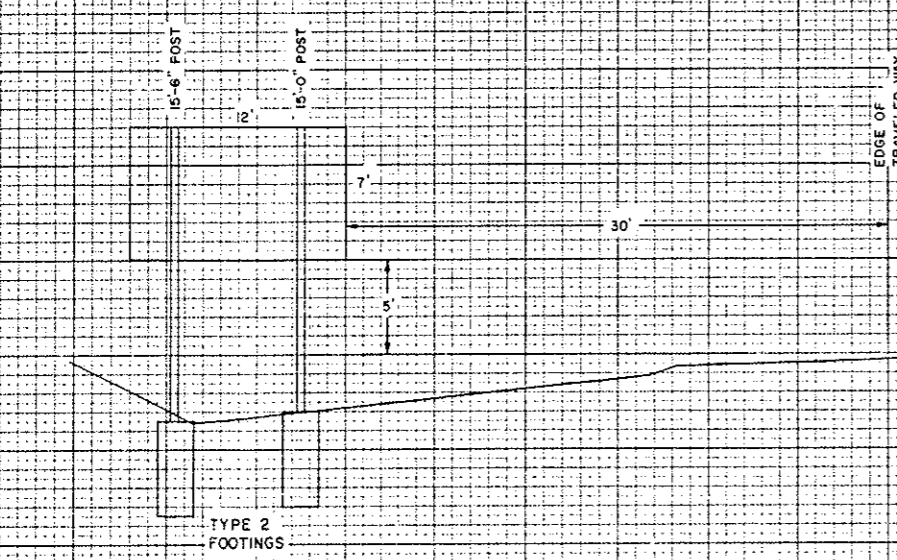
DATE	BY
ORIGINAL SURVEY	
TEMPERATURE	
NOTE BOOK	
NO.	AREAS CHECKED



SIGN NO. 194
STA. 200+00



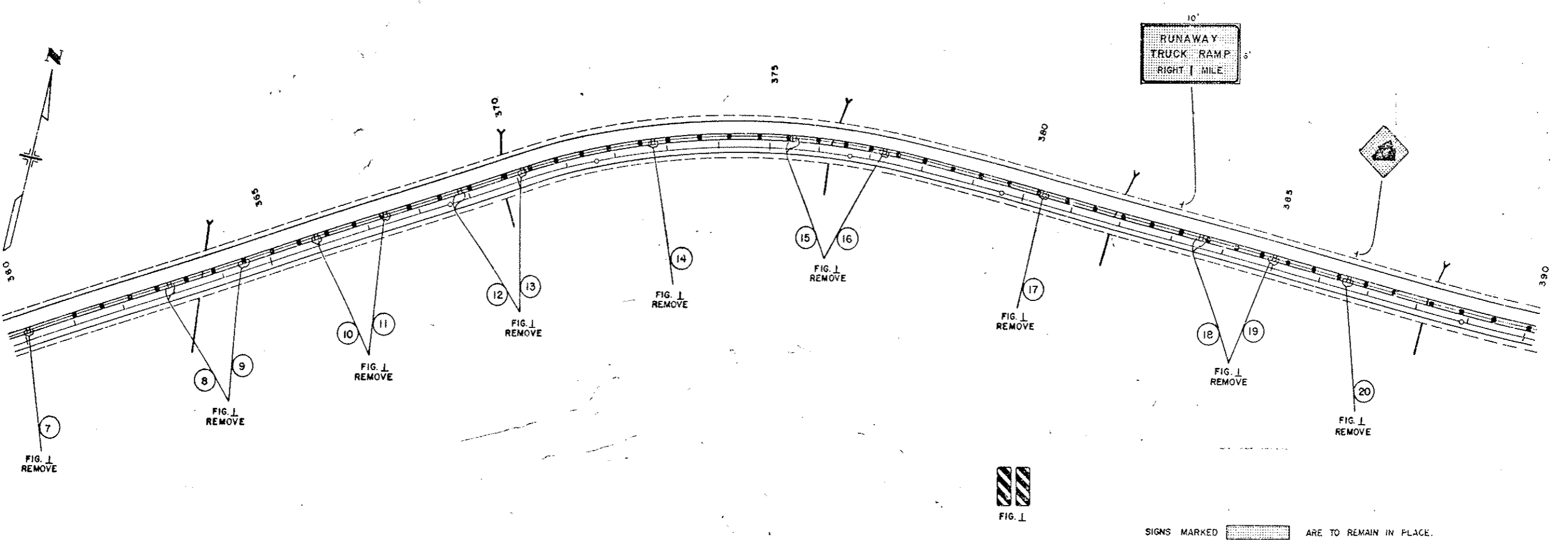
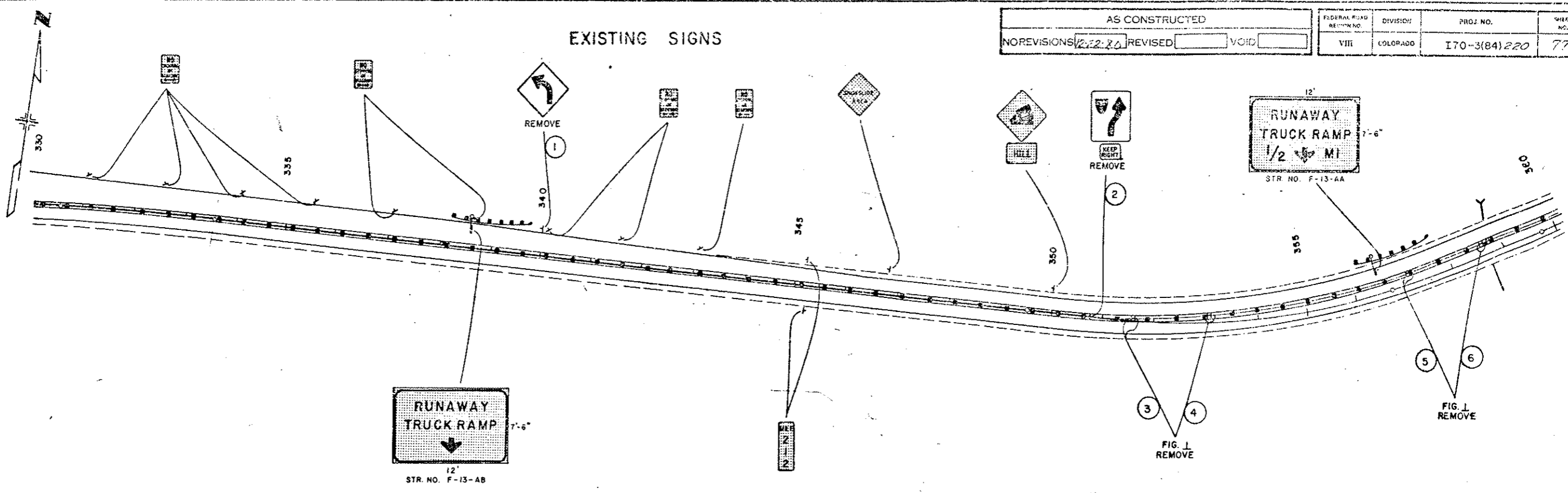
SIGN NO. 197
STA. 220+00



SIGN NO. 196
STA. 210+00

EXISTING SIGNS

AS CONSTRUCTED		FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS <u>2/22/86</u> REVISED _____ VOID _____		VIII	COLORADO	I70-3(84)220	77	102

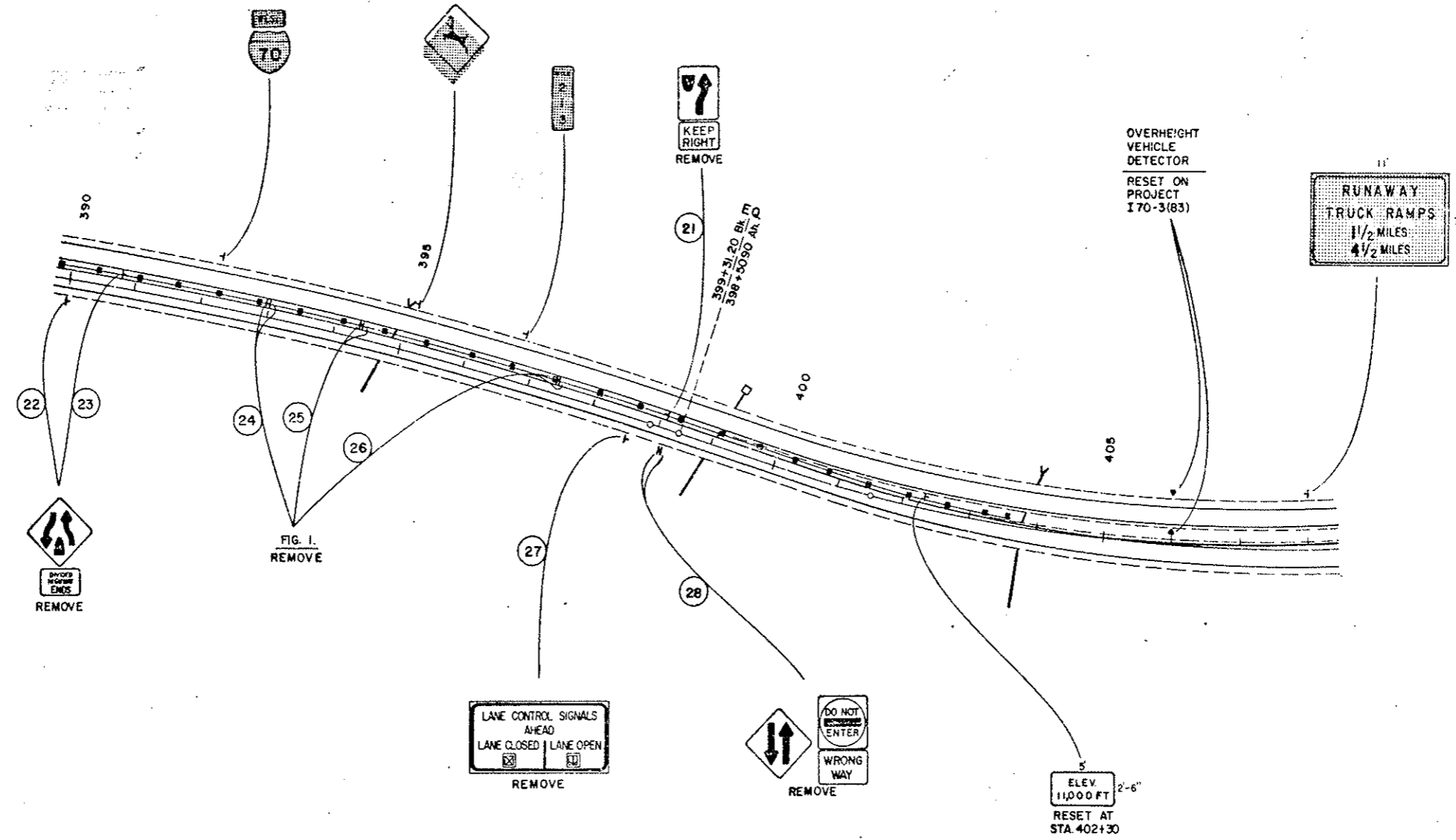


SIGNS MARKED  ARE TO REMAIN IN PLACE.

EXISTING SIGNS

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID
12-22-82		

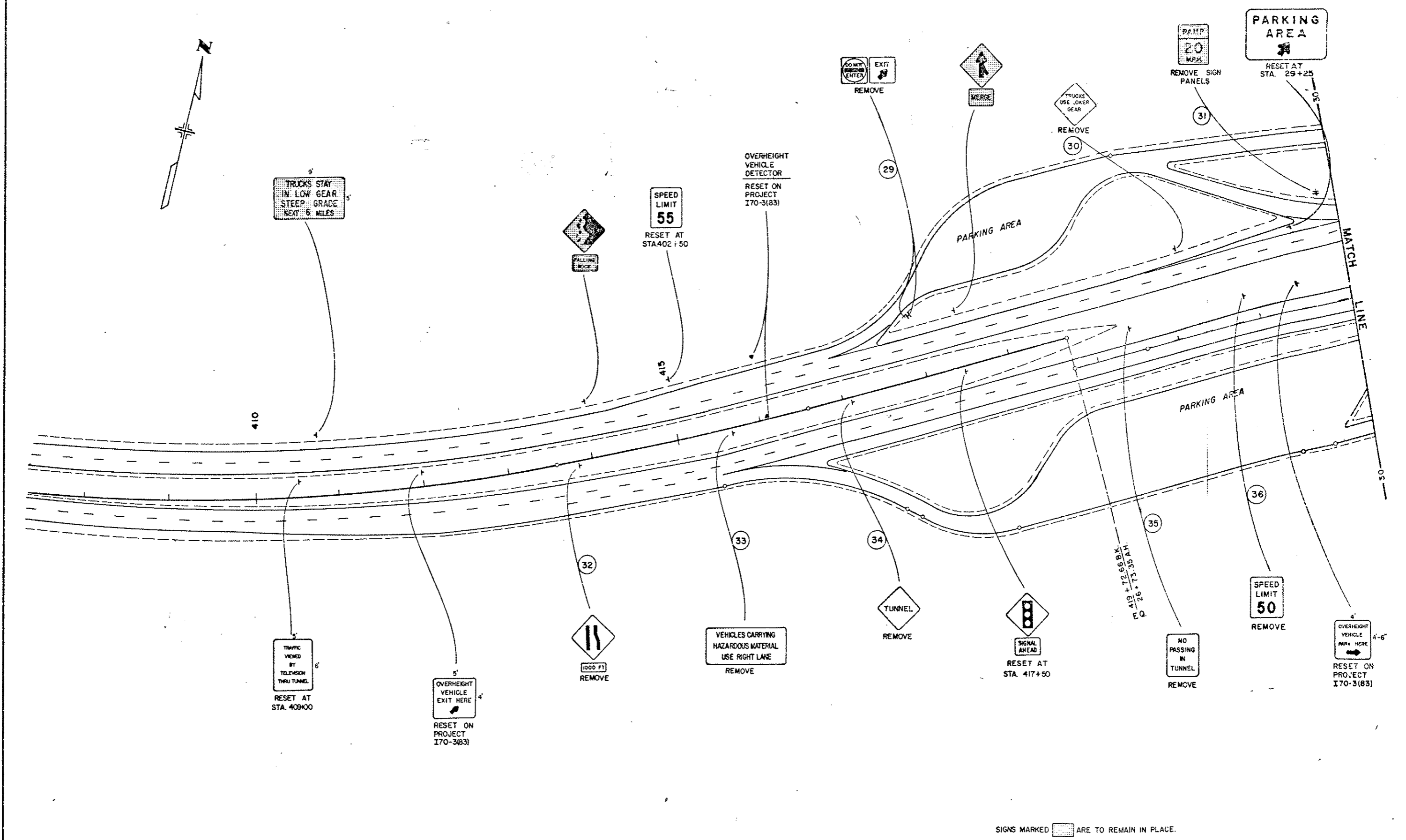
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I70-3(84) 220	78	102



SIGNS MARKED [hatched box] ARE TO REMAIN IN PLACE.

EXISTING SIGNS

AS CONSTRUCTED		FEDERAL ROAD DISTRICT NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS [2-22-82] REVISED: [] VOID: []		VIII	COLORADO	I 70-3(84) 220	79	102

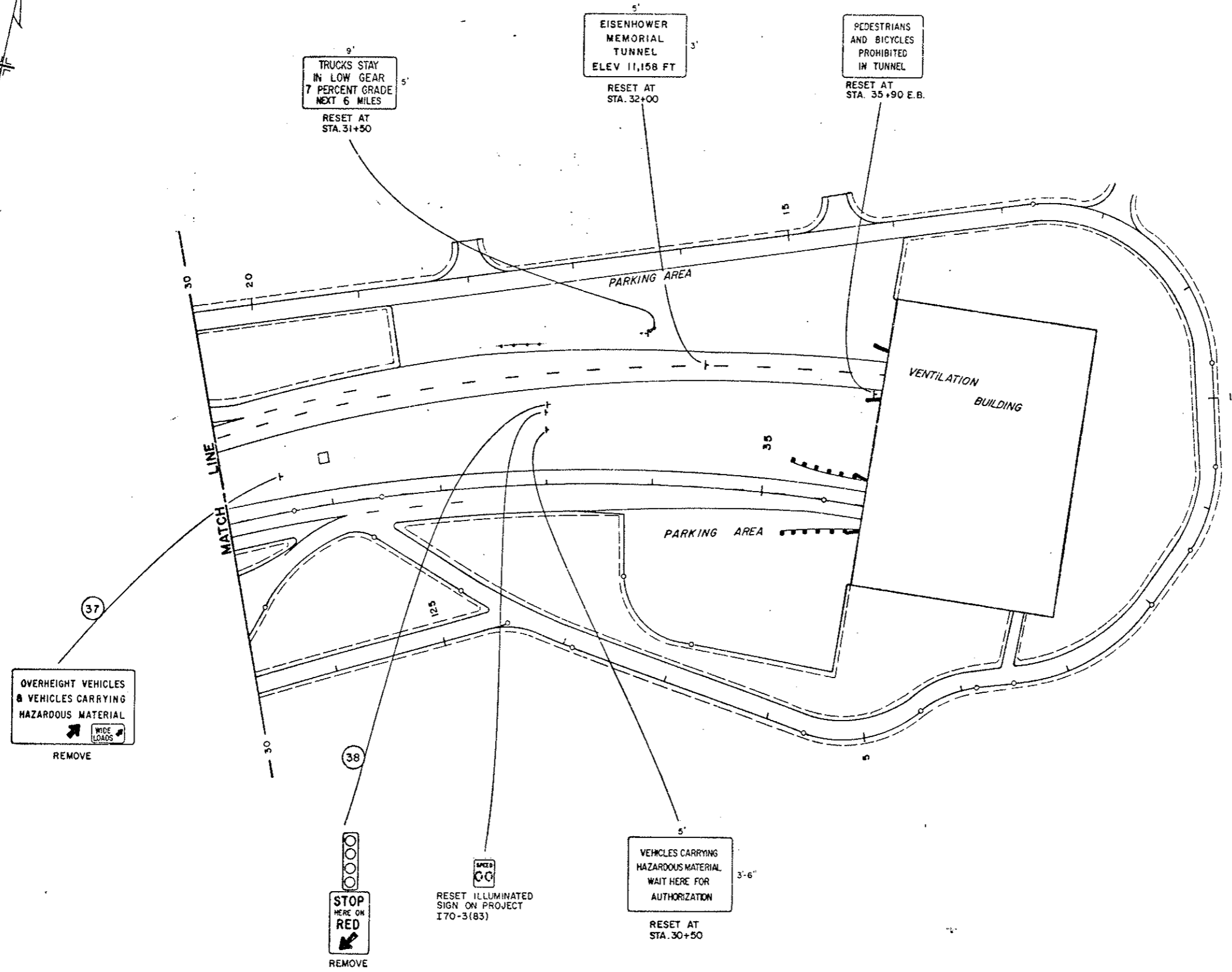
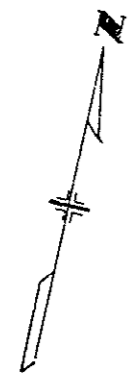


SIGNS MARKED [] ARE TO REMAIN IN PLACE.

WEST PORTAL EXISTING SIGNS

AS CONSTRUCTED
NO REVISIONS 12-22-82 REVISED [] VOID []

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70-3(84)220	50	102



9'
TRUCKS STAY
IN LOW GEAR
7 PERCENT GRADE
NEXT 6 MILES
5'
RESET AT
STA. 31+50

5'
EISENHOWER
MEMORIAL
TUNNEL
ELEV 11,158 FT
3'
RESET AT
STA. 32+00

PEDESTRIANS
AND BICYCLES
PROHIBITED
IN TUNNEL
RESET AT
STA. 35+90 E.B.

37
OVERHEIGHT VEHICLES
& VEHICLES CARRYING
HAZARDOUS MATERIAL
WIDE LOADS
REMOVE

38
STOP
HERE ON
RED
REMOVE

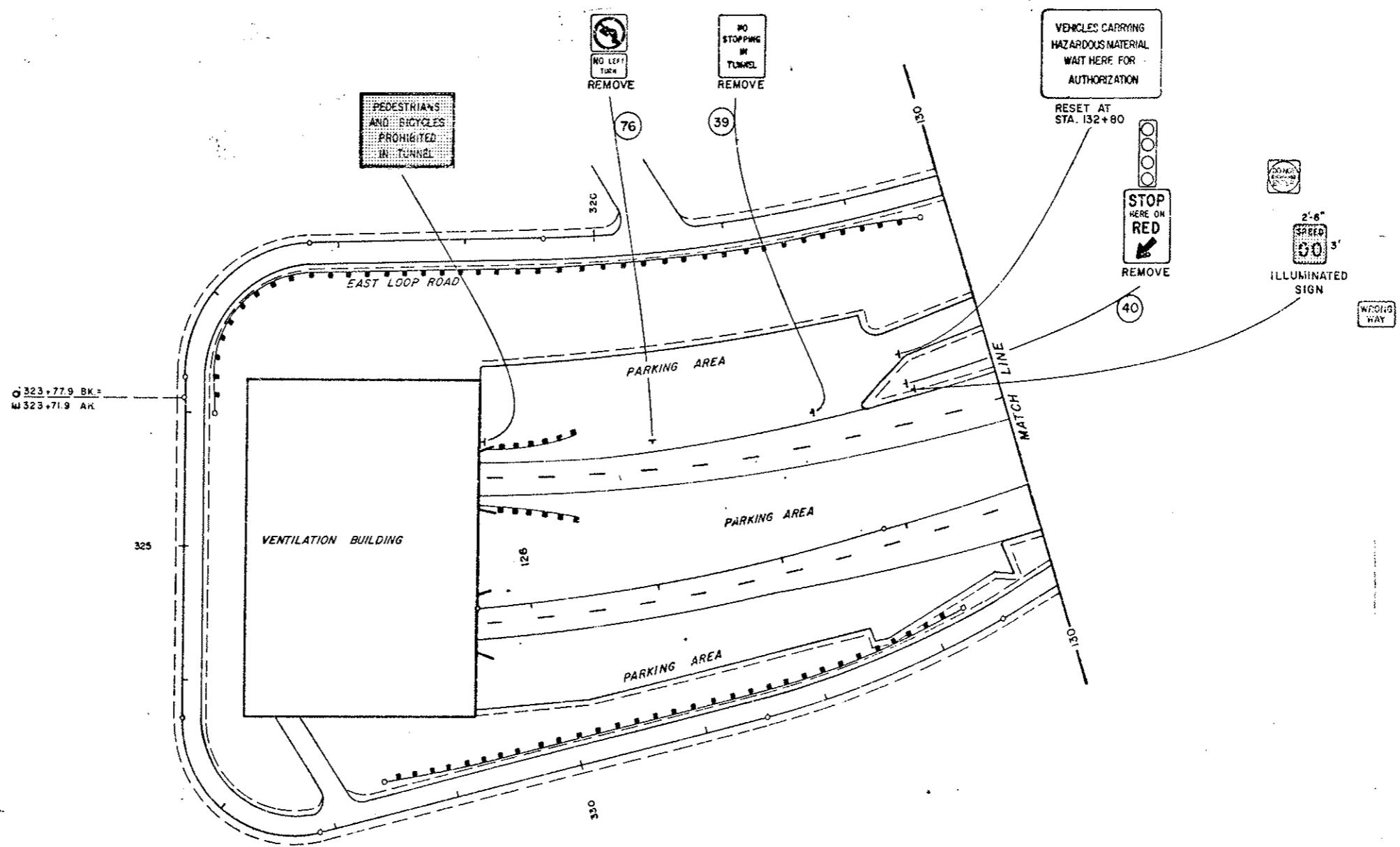
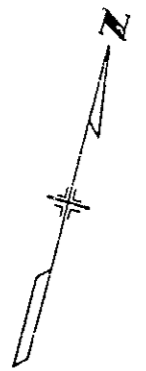
RESET ILLUMINATED
SIGN ON PROJECT
I 70-3(83)

5'
VEHICLES CARRYING
HAZARDOUS MATERIAL
WAIT HERE FOR
AUTHORIZATION
3'-6"
RESET AT
STA. 30+50

EAST PORTAL EXISTING SIGNS

AS CONSTRUCTED
NO REVISIONS 12-22-80 REVISED [] VOID []

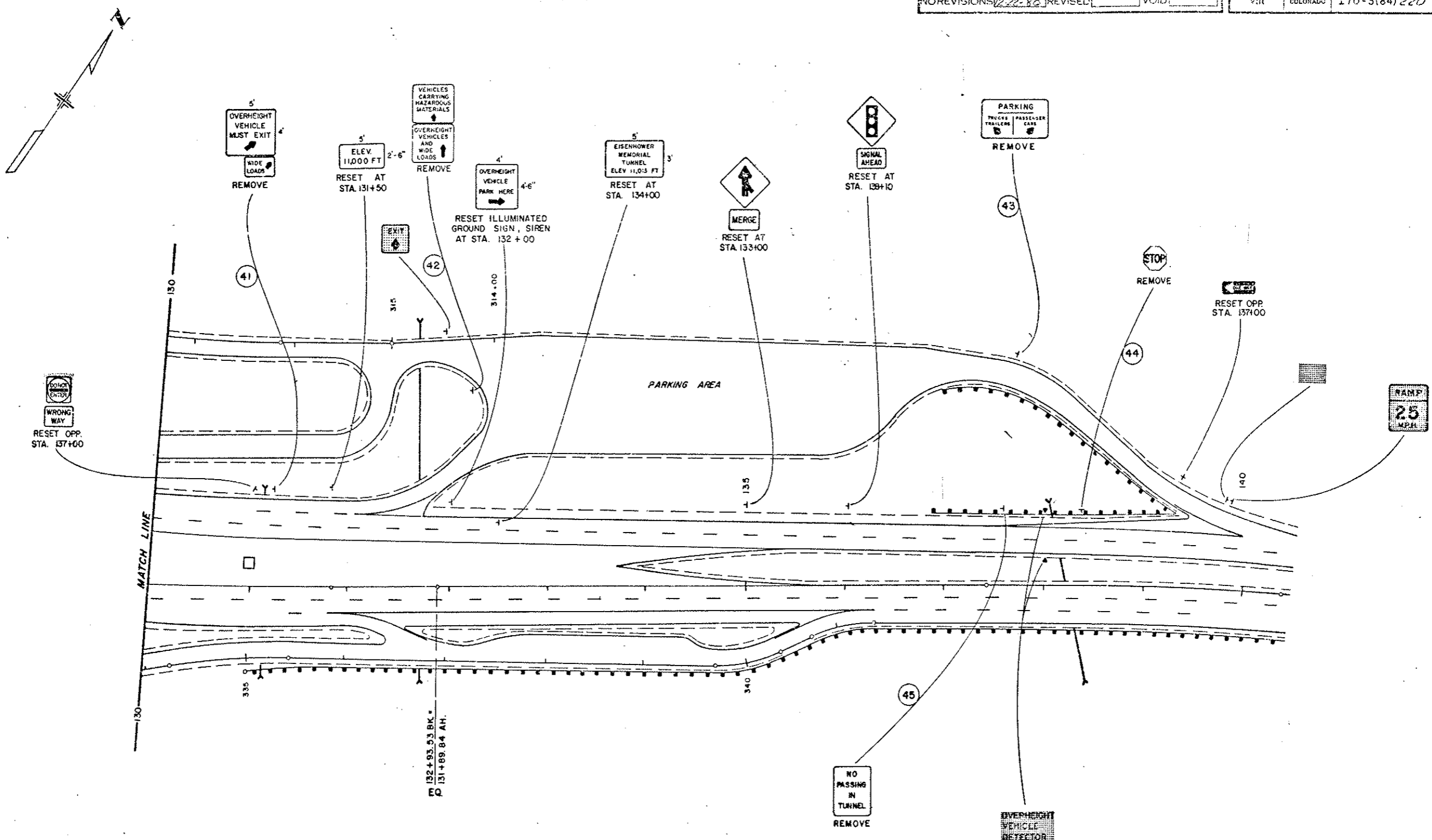
FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70-3(84) 220	81	102



SIGNS MARKED [] ARE TO REMAIN IN PLACE

EXISTING SIGNS

AS CONSTRUCTED		FEDERAL ROAD SIGN NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	2-22-82	REVISED		VOID	82	102
		VIH	COLORADO	I70-3(84)220		

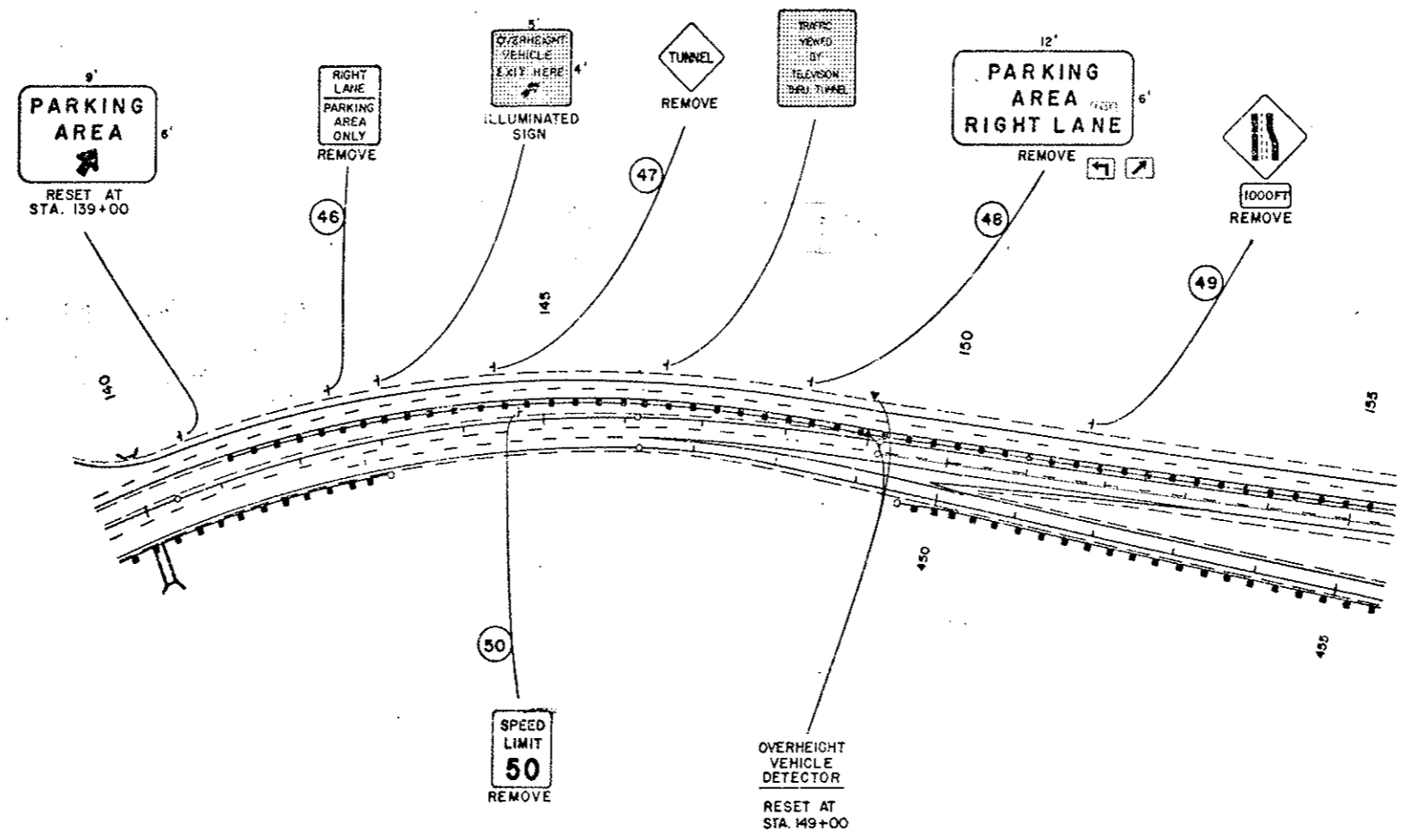
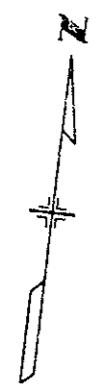


SIGNS MARKED [hatched box] ARE TO REMAIN IN PLACE

EXISTING SIGNS

AS CONSTRUCTED		
NO REVISIONS	2-22-80	REVISED
		VCIS

FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70 - 3(84) 220	83	102



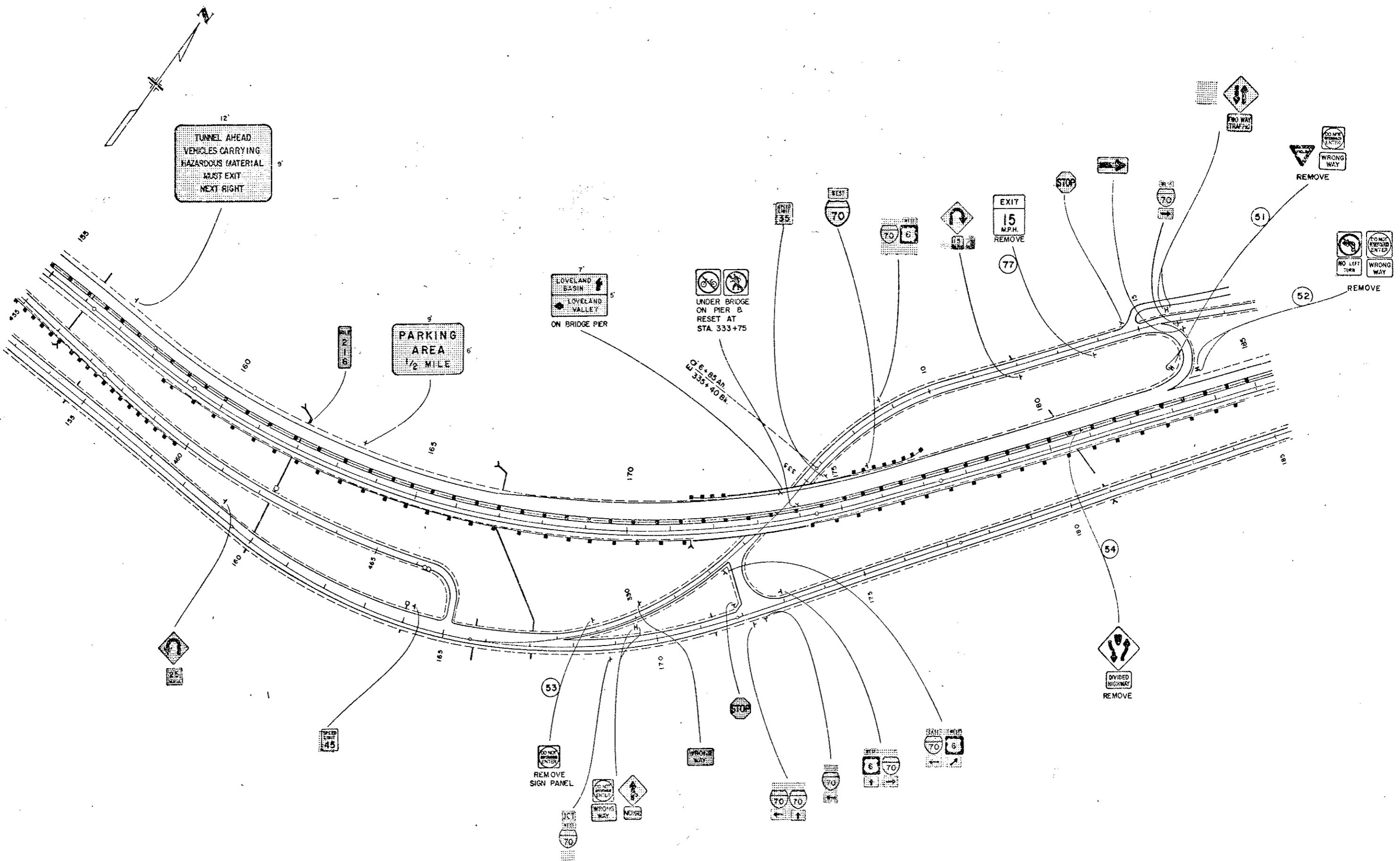
SIGNS MARKED  ARE TO REMAIN IN PLACE.

REV. (01)



EXISTING SIGNS

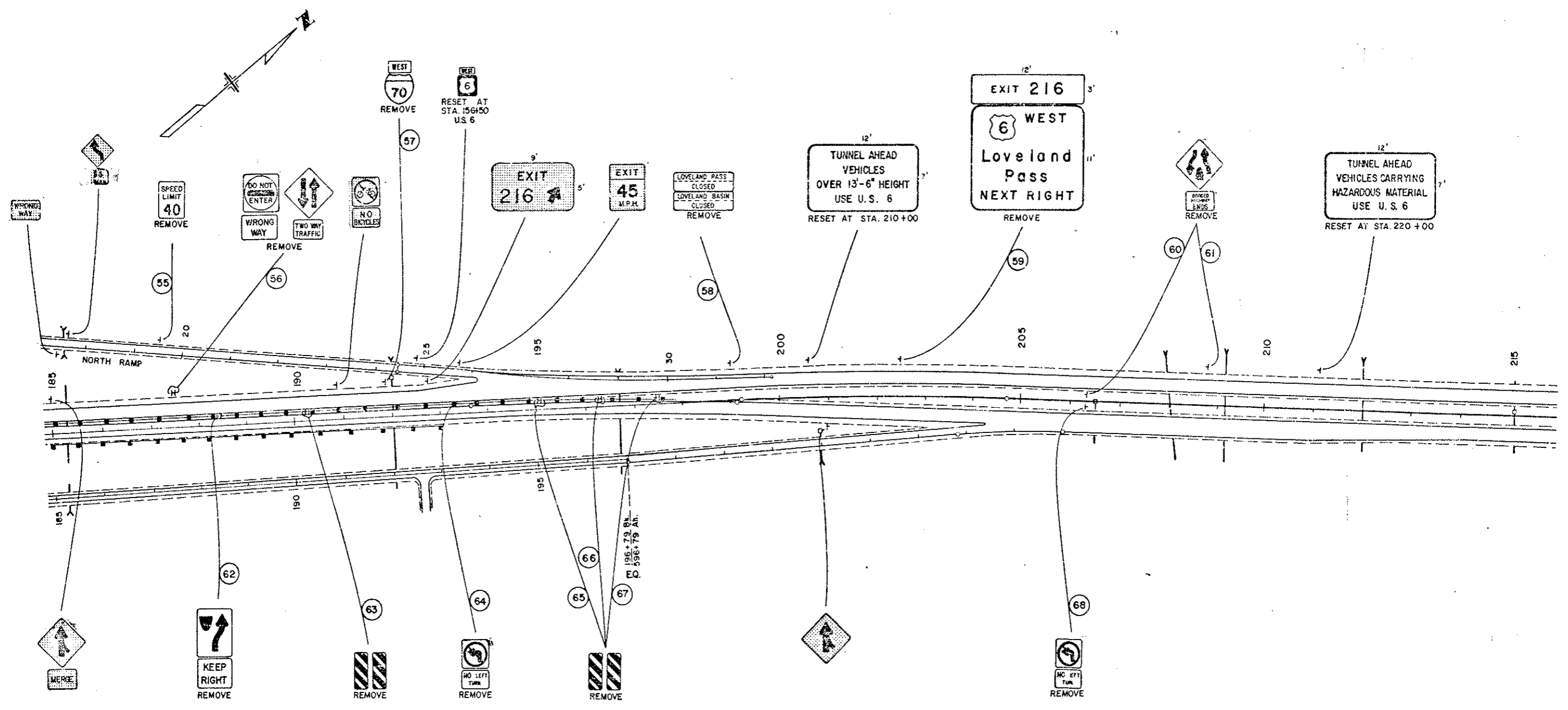
AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS		
NOREVISIONS	12-22-80	REVIS	VOID	VIII	COLORADO	I70-3(84) 220	84	102



SIGNS MARKED [] ARE TO REMAIN IN PLACE.

EXISTING SIGNS

AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS 2-22-20		VIH	COLORADO	I70-3(84) 220	95	102

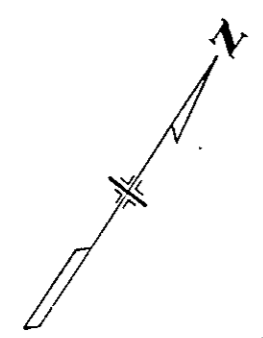
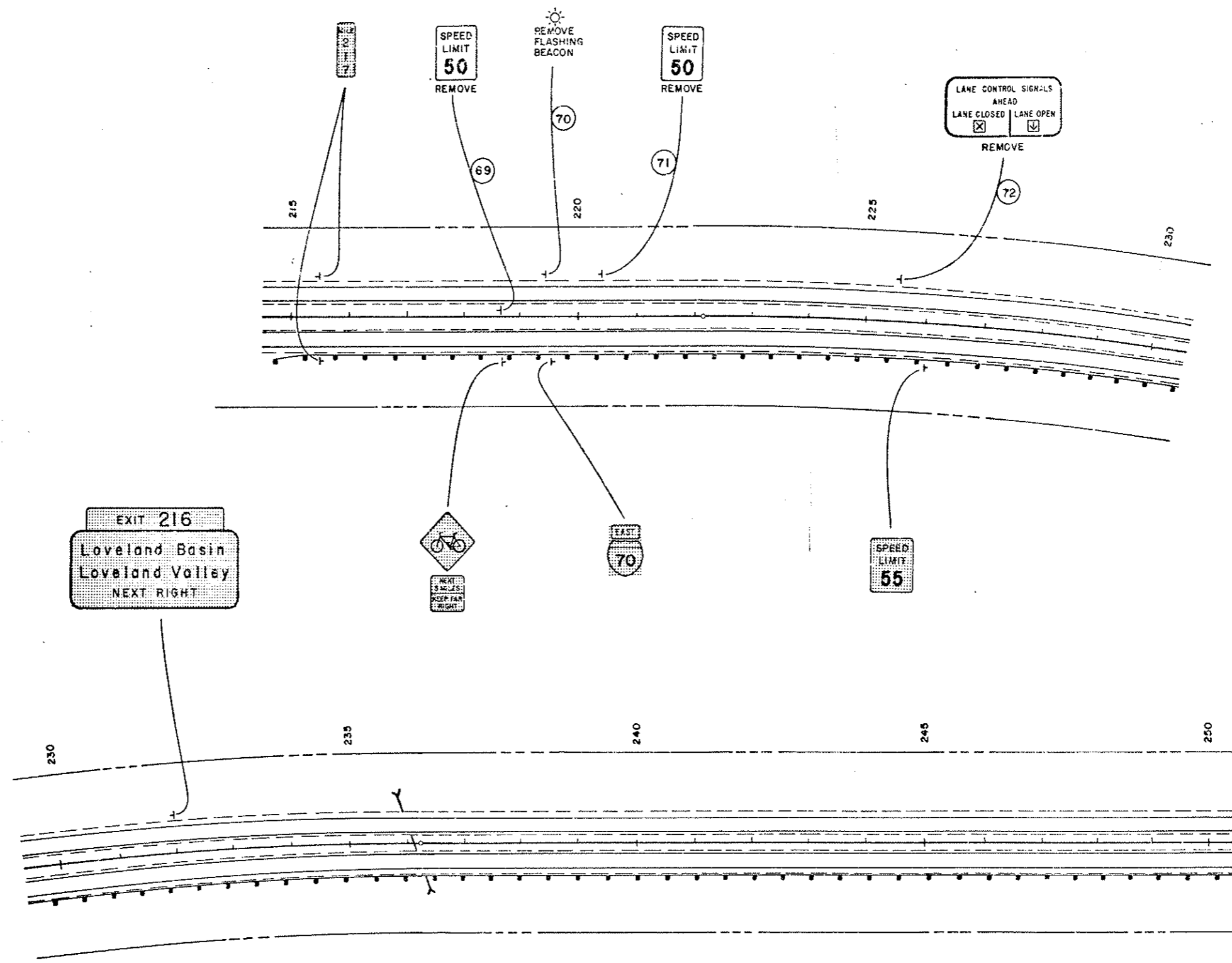
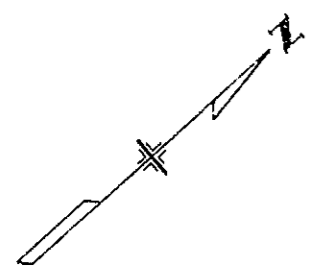



SIGNS MARKED  ARE TO REMAIN IN PLACE.

EXISTING SIGNS

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID
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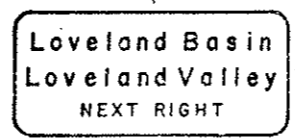
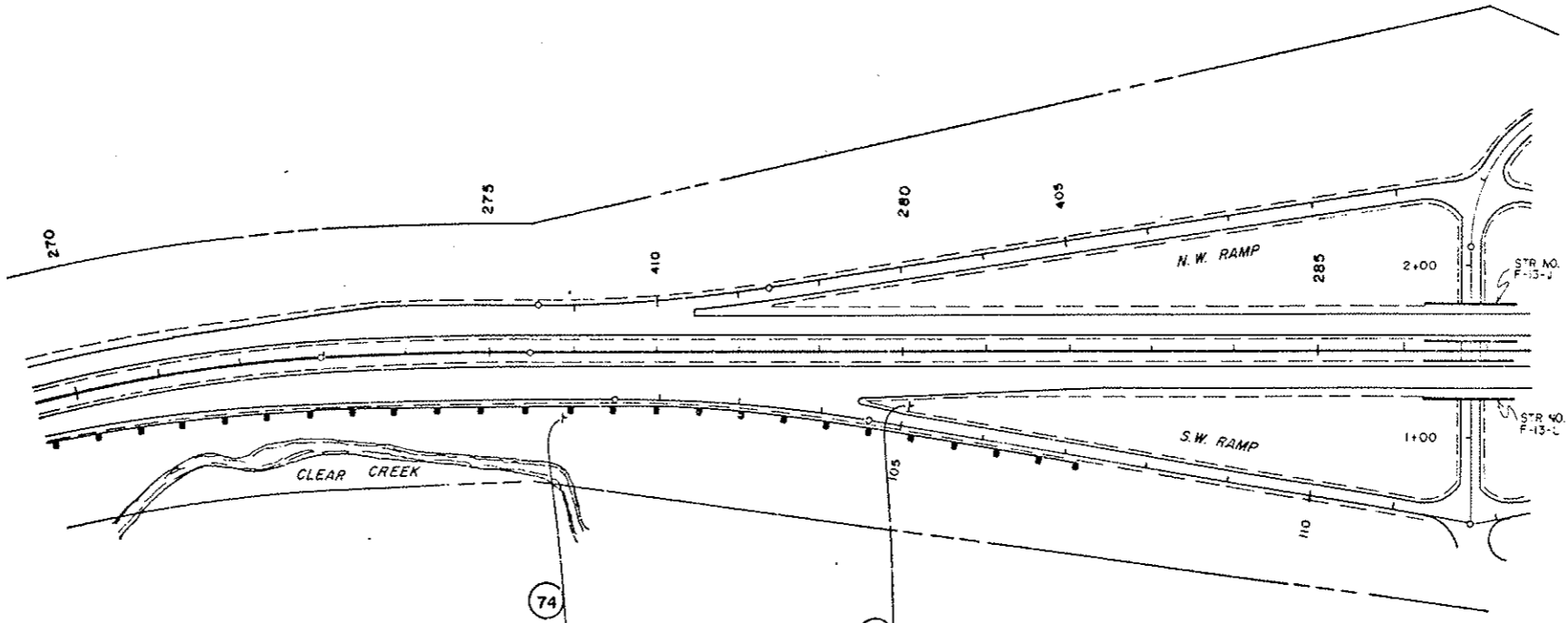
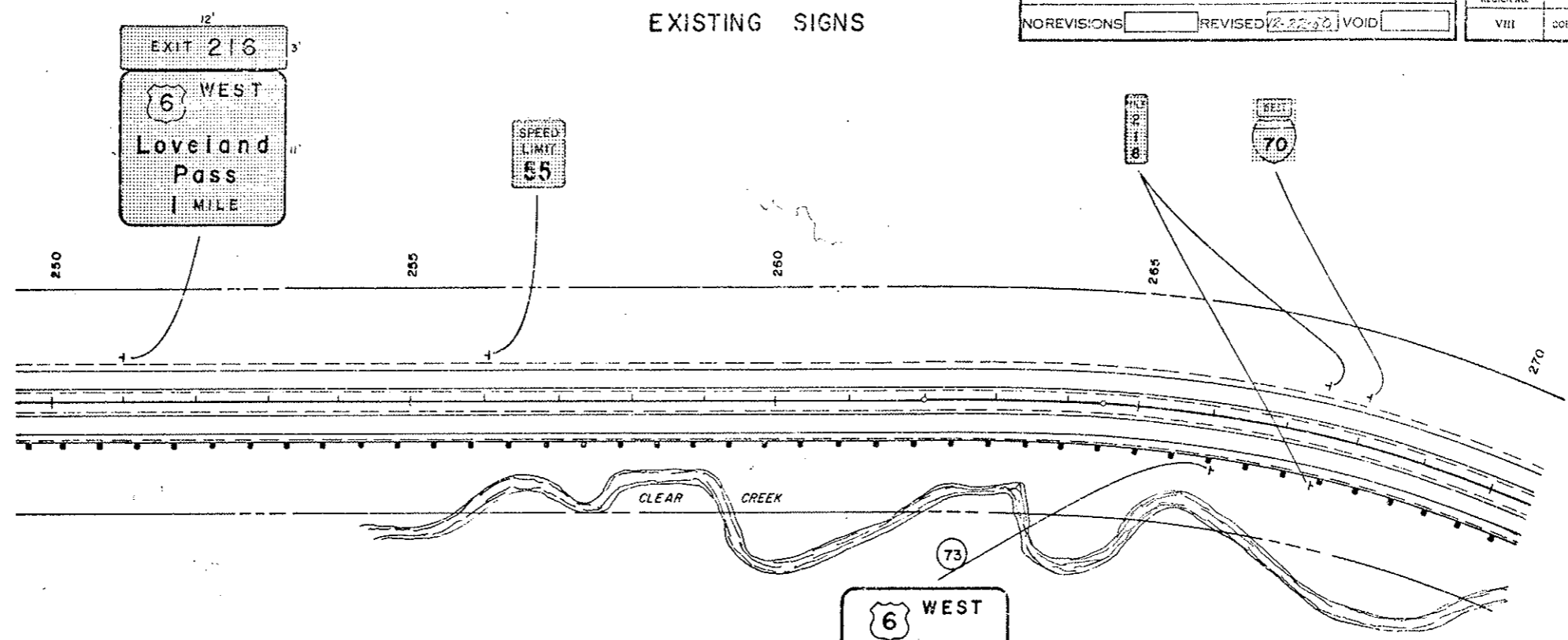
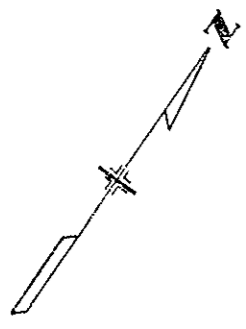
FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70-3(54) 220	86	102



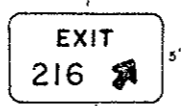
SIGNS MARKED  ARE TO REMAIN IN PLACE

AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS		VIII	COLORADO	ITC-3(84) 220	87	102

EXISTING SIGNS



Reset at Sta. 140+ R.R.
 E.B. Lane



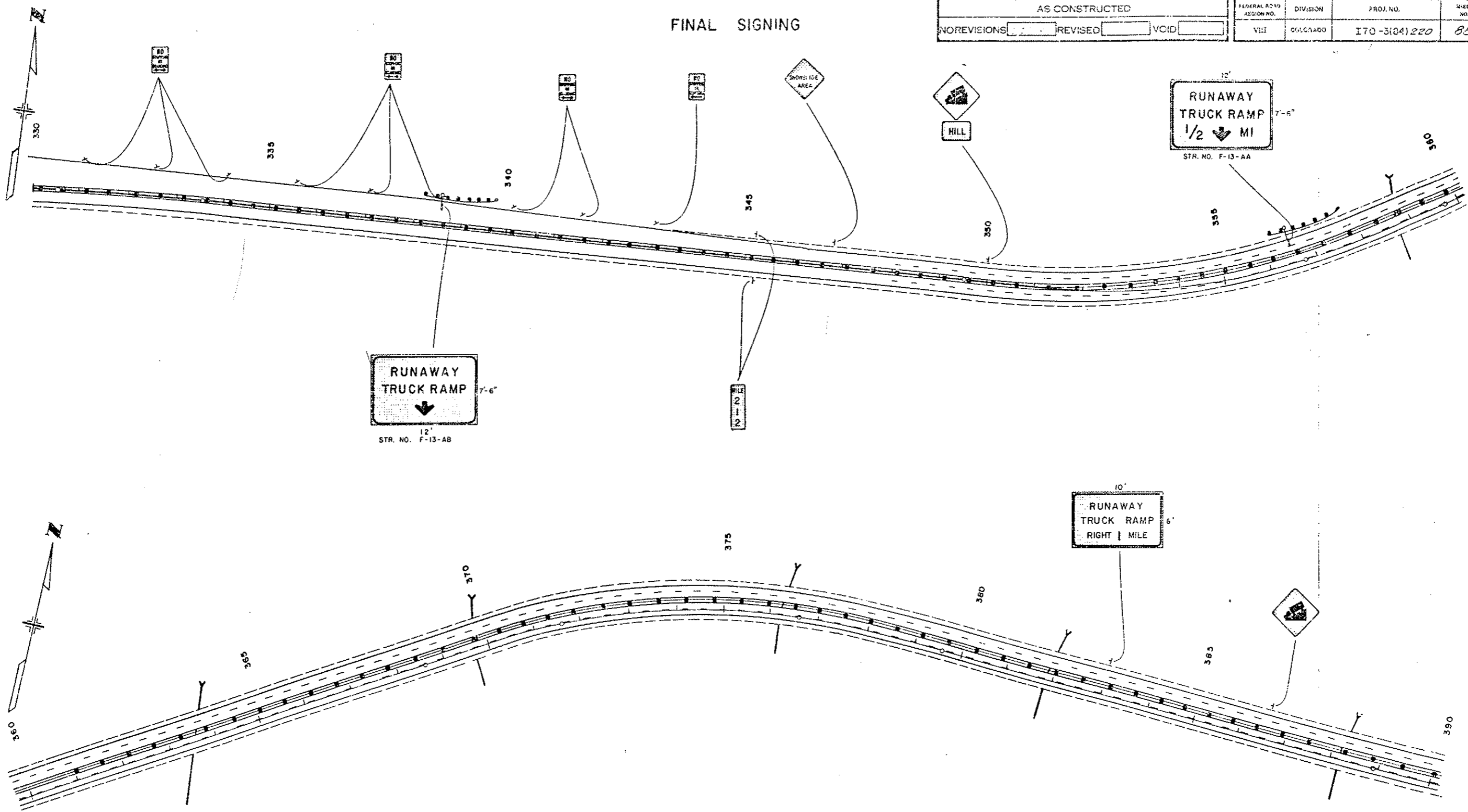
HERMAN GULCH

SIGNS MARKED [] ARE TO REMAIN IN PLACE.
 ALL SIGNS NOT SHOWN ARE TO REMAIN IN PLACE.



FINAL SIGNING

AS CONSTRUCTED			FEDERAL AID REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	REVISED	VOID	VIII	COLORADO	I70-3(04)220	88	102

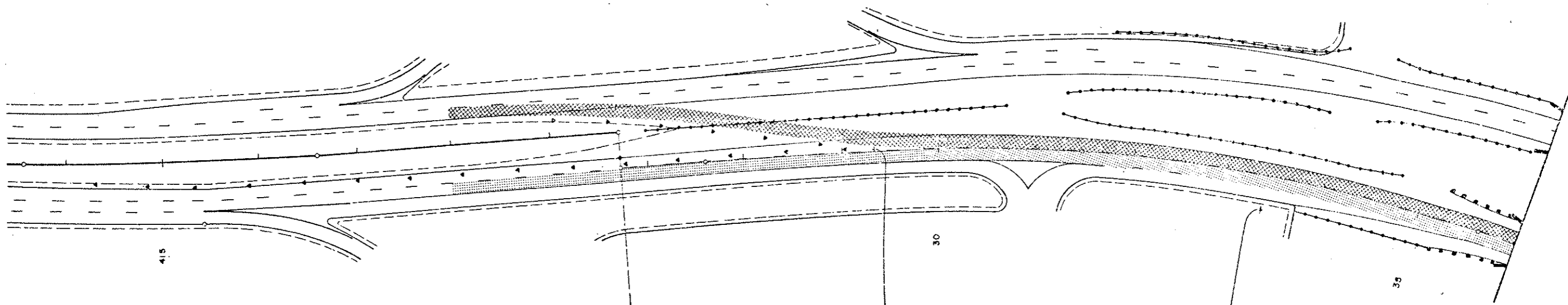
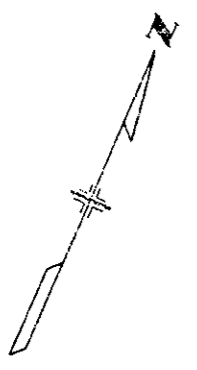


SIGNS MARKED ARE TO REMAIN IN PLACE.

WEST PORTAL

(NORTH TUNNEL CLOSURE)

AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	22-22	REVISÉD	VOID	VIII	COLORADO	I 70-3 (84) 220
					93	102





$\frac{419 + 72.66 \text{ BK}}{26 + 73.35 \text{ AH}}$
 C.D.



RE-USE FROM SOUTH TUNNEL CLOSURE

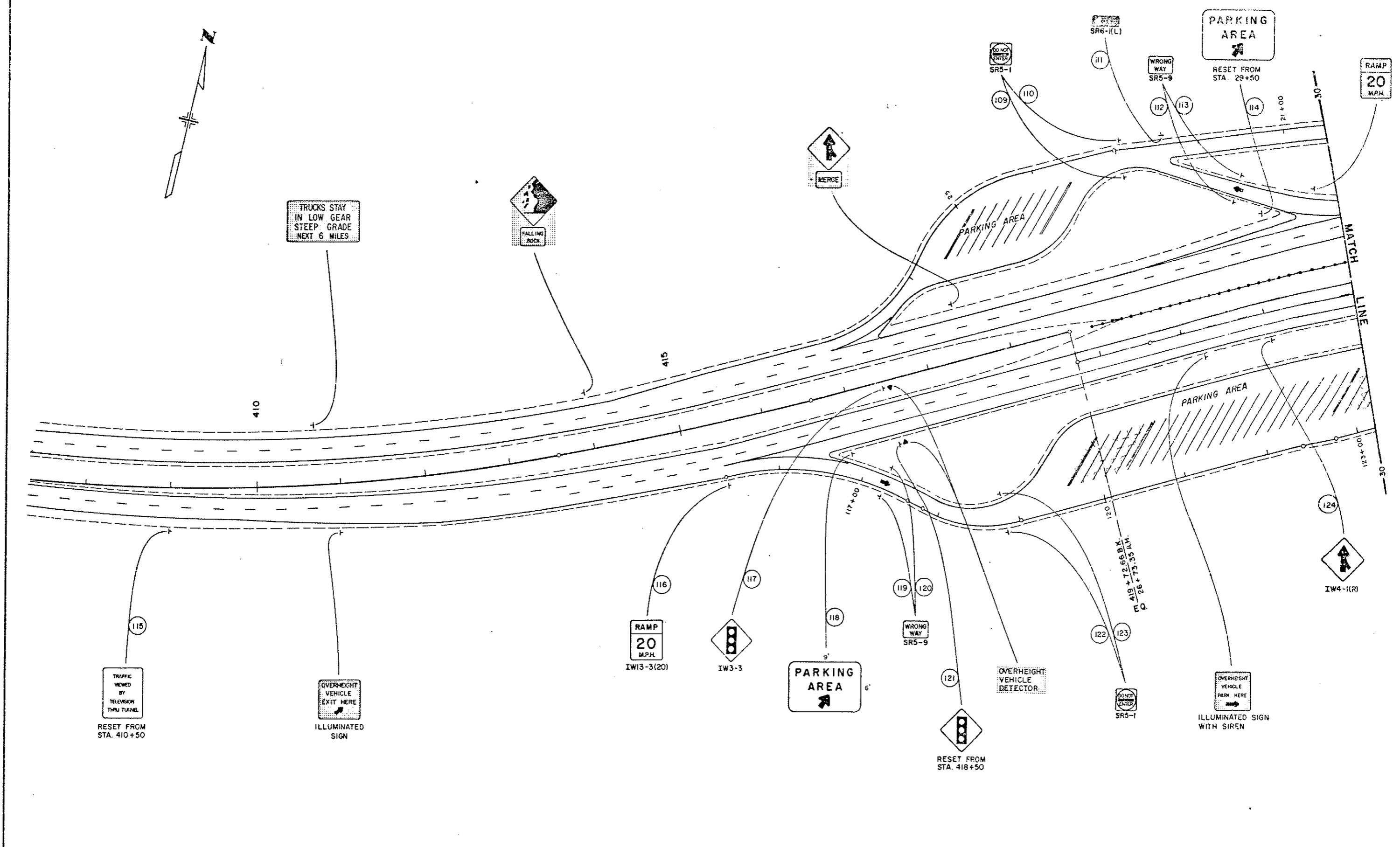


RE-USE FROM SOUTH TUNNEL CLOSURE

EASTBOUND TRAFFIC 
 WESTBOUND TRAFFIC 
 21 TRAFFIC CONES REQUIRED. (FROM SOUTH TUNNEL CLOSURE)

FINAL SIGNING

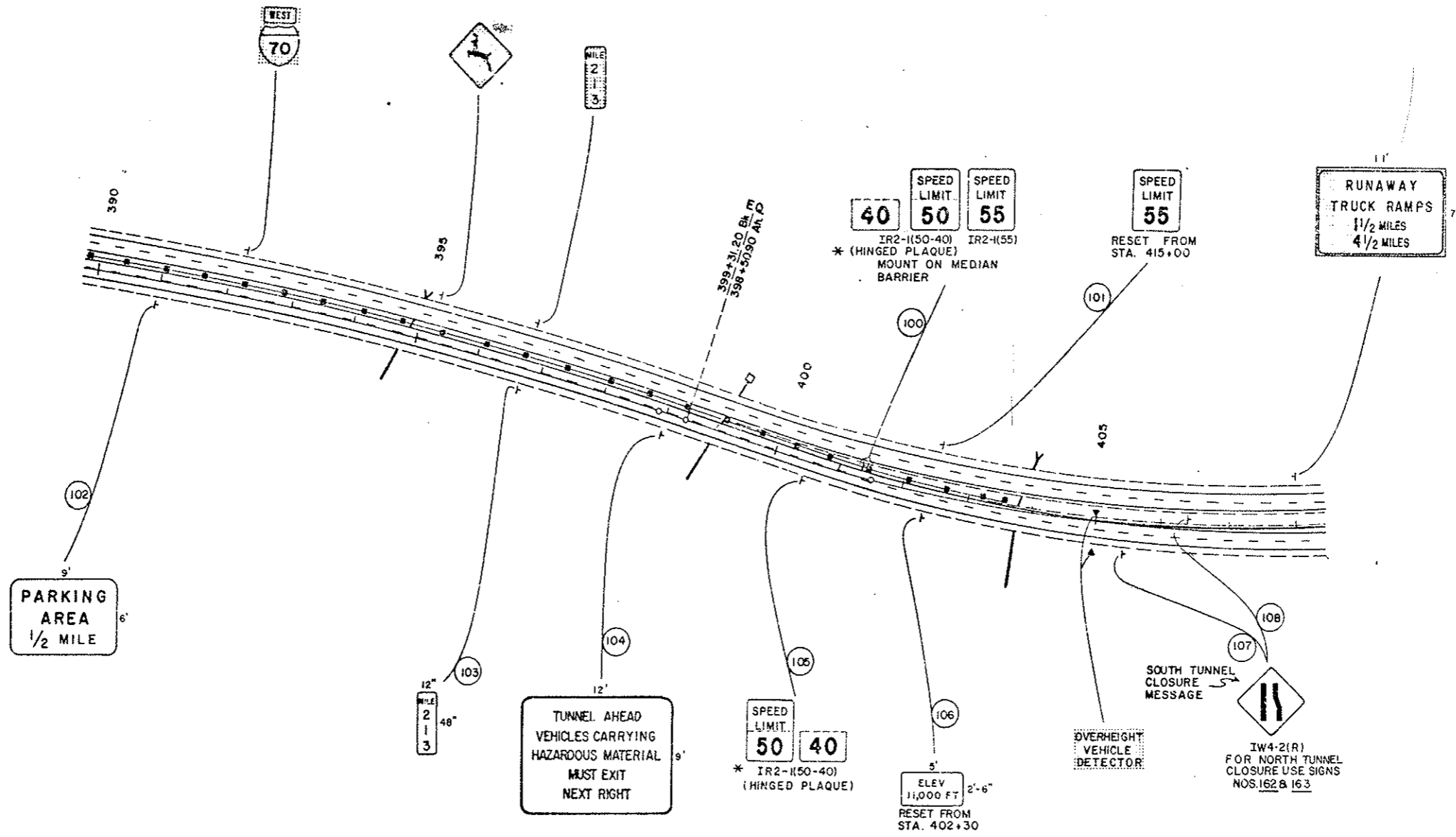
AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NOREVISIONS	REVISED	VOID	VI	COLORADO	I70-3(84)220	50



SIGNS MARKED ARE TO REMAIN IN PLACE.

FINAL SIGNING

AS CONSTRUCTED		FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	REFLECT. NO.	TOTAL MILES
NOREVISIONS	REVISED	VOID	VIII	COLORADO	I70-3(84)220	89



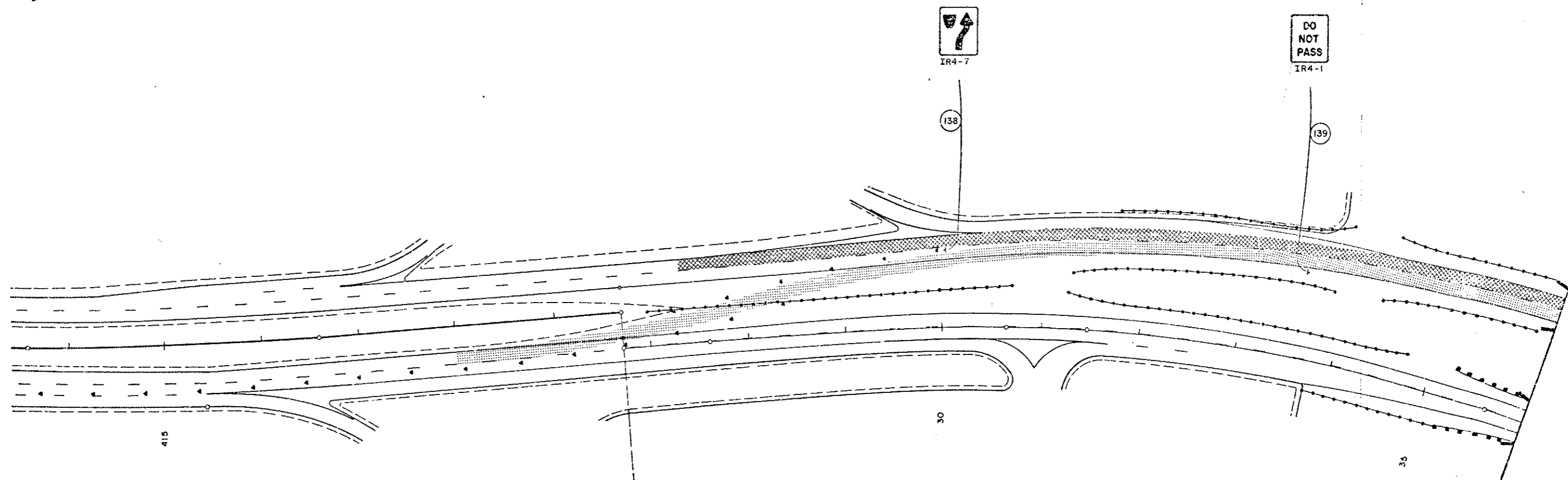
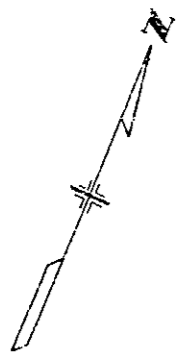
* THESE SIGNS APPLY TO BOTH NORTH AND SOUTH TUNNEL CLOSURES.

SIGNS MARKED ARE TO REMAIN IN PLACE.

WEST PORTAL



(SOUTH TUNNEL CLOSURE)

AS CONSTRUCTED		FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	REVISED	VOID	VIII	COLORADO	I 70-3 (84) 220	92 / 116



ST. 419 + 72.66 BK.
 CO. 26 + 73.35 AH.

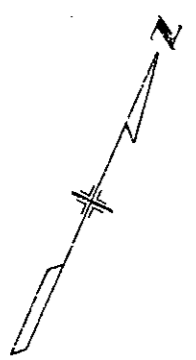
(140) 40 TRAFFIC CONES (PERM.)

EASTBOUND TRAFFIC 
 WESTBOUND TRAFFIC 
 21 TRAFFIC CONES REQUIRED. ★

EAST PORTAL

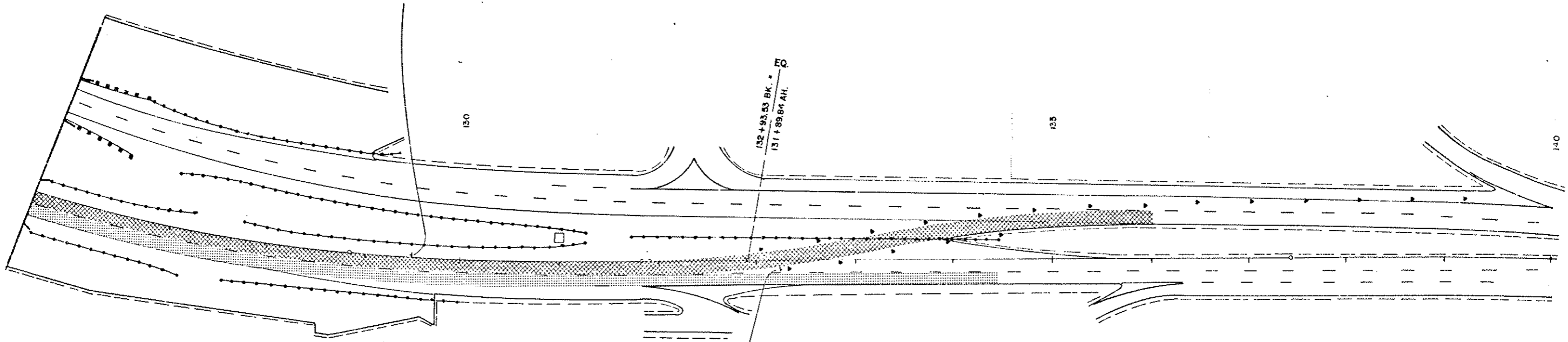
(NORTH TUNNEL CLOSURE)

AS CONSTRUCTED		REGIONAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NOREVISIONS	1/2-22-79	REVISED		VOID	95	102
		711	COLORADO	I 70-3(84) 220		





DO NOT PASS

RE-USE FROM SOUTH TUNNEL CLOSURE



RE-USE FROM SOUTH TUNNEL CLOSURE

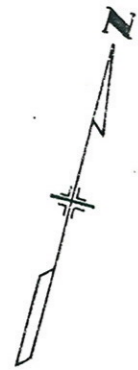
EASTBOUND TRAFFIC 
WESTBOUND TRAFFIC 

19 TRAFFIC CONES REQUIRED. ▲ (FROM SOUTH TUNNEL CLOSURE)

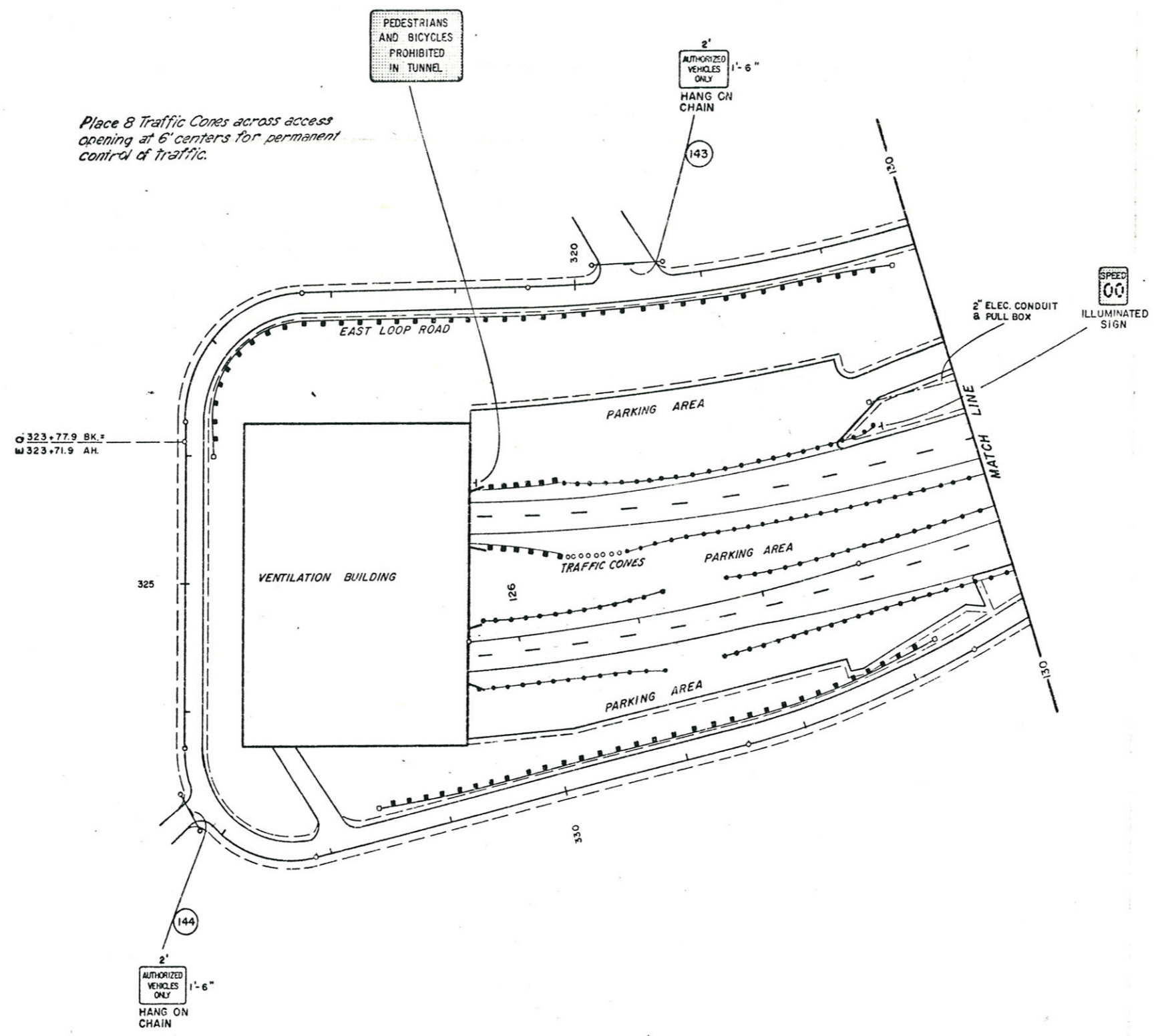
EAST PORTAL FINAL SIGNING

AS CONSTRUCTED
 NO REVISIONS REVISED VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	I 70-3(84) 220	96	100



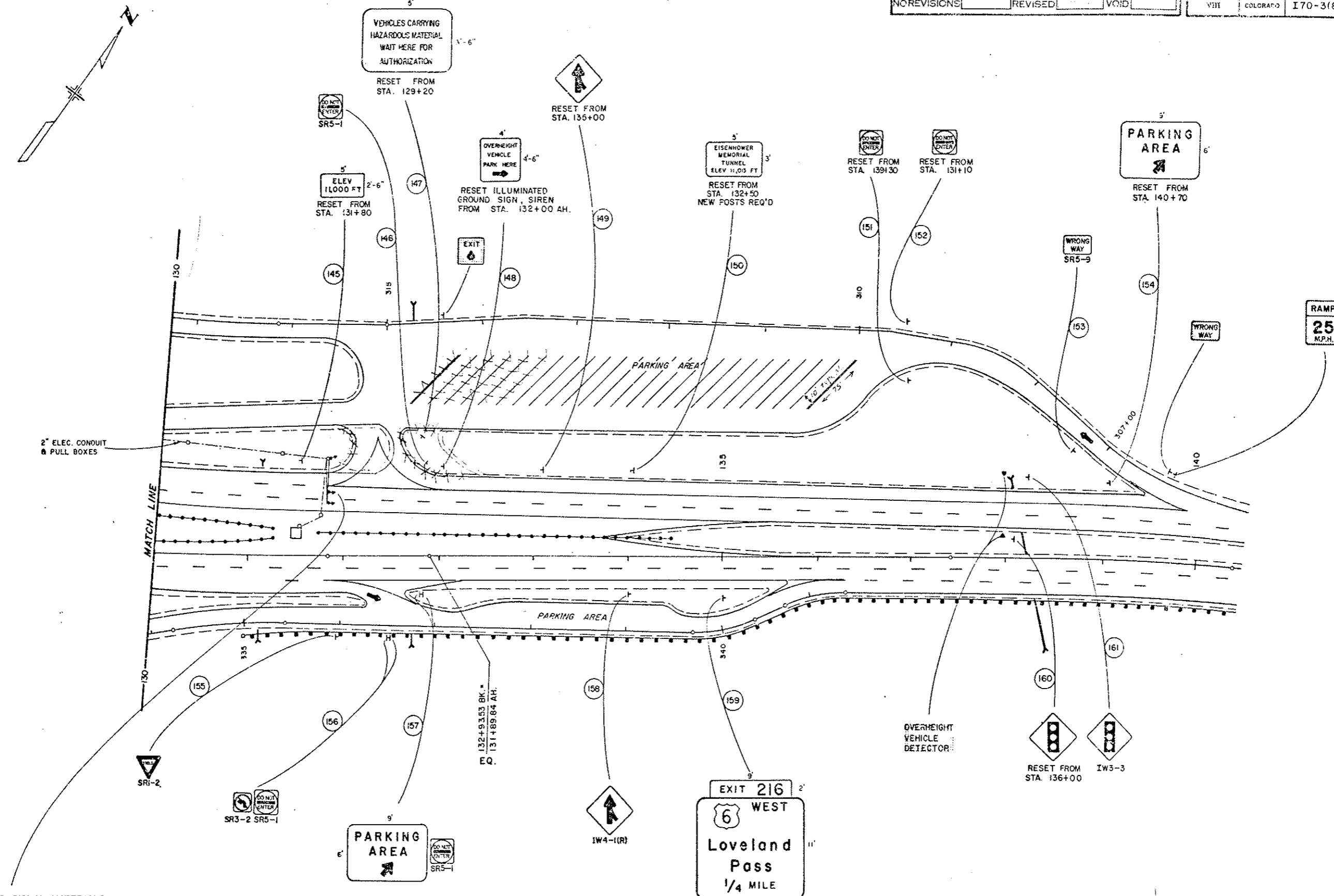
Place 8 Traffic Cones across access opening at 6' centers for permanent control of traffic.



SIGNS MARKED ARE TO REMAIN IN PLACE.

FINAL SIGNING

AS CONSTRUCTED		FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NOREVISIONS	REVISED	VOID	VIII	COLORADO	I 70-3(84) 220	97



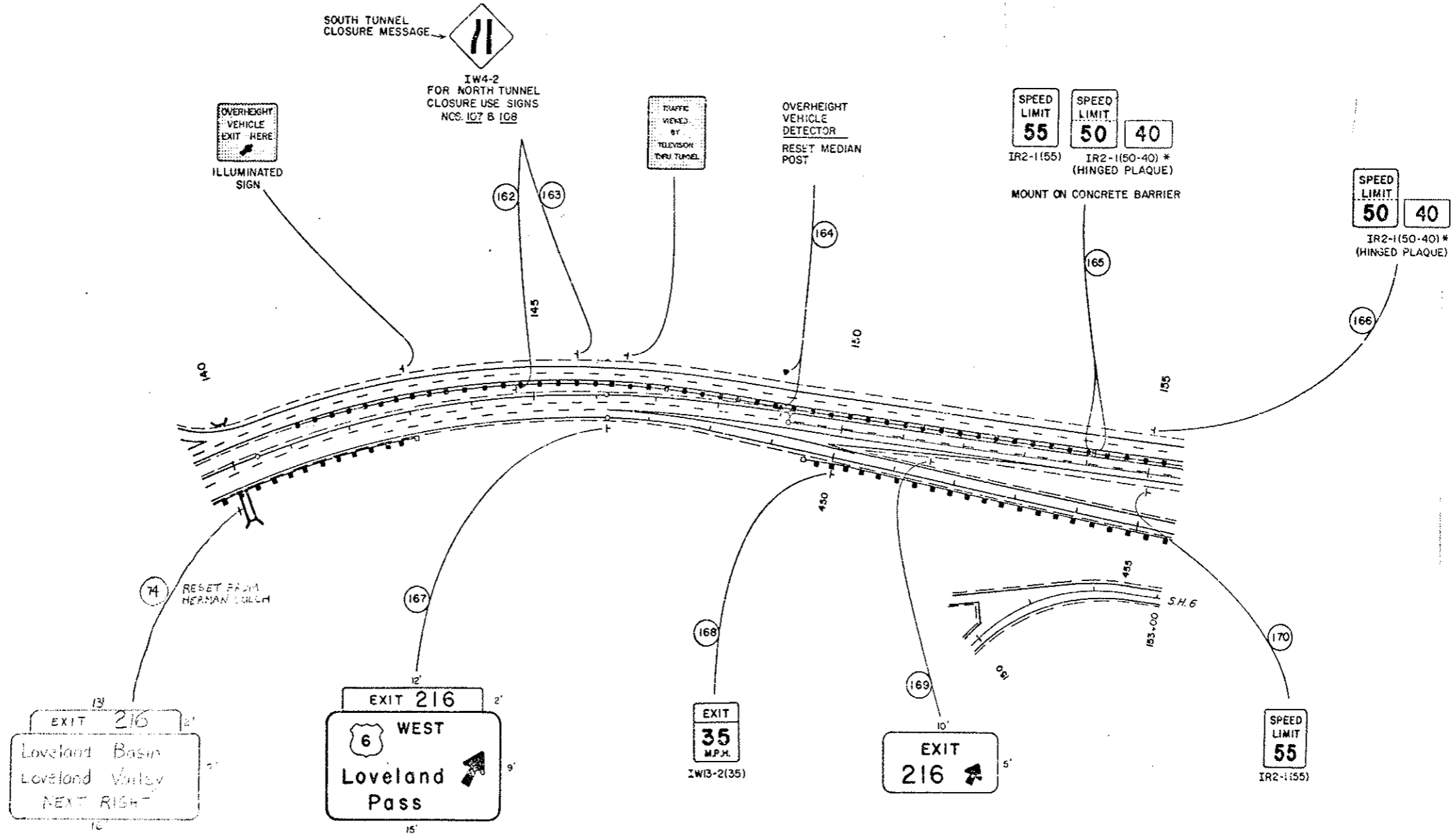
TRAFFIC SIGNAL MATERIALS

613	2 INCH ELECTRICAL CONDUIT	LIN. FT.	340
614	TRAFFIC SIGNAL FACE (12-6-8)	EACH	3
614	TRAFFIC SIGNAL POLE STEEL (1 MAST ARM)	EACH	1

SIGNS MARKED ARE TO REMAIN IN PLACE.

FINAL SIGNING

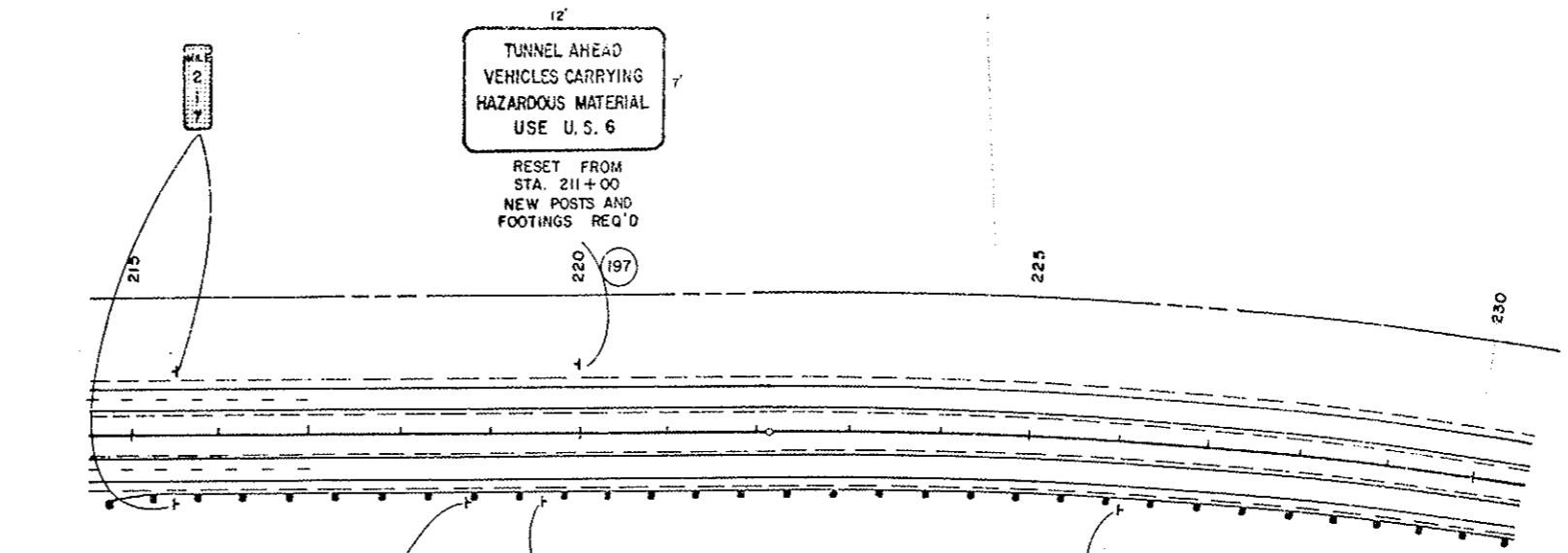
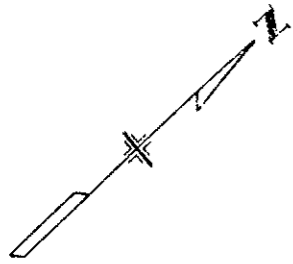
AS CONSTRUCTED				
NO REVISIONS	REVISED	VOID	FEDERAL ROAD REGION NO.	DIVISION
			Y111	COLORADO
			PROJ. NO.	PRJCT. NO.
			I 70-3(84) 220	98
			TOTAL SHEETS	



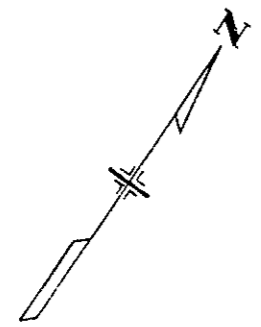
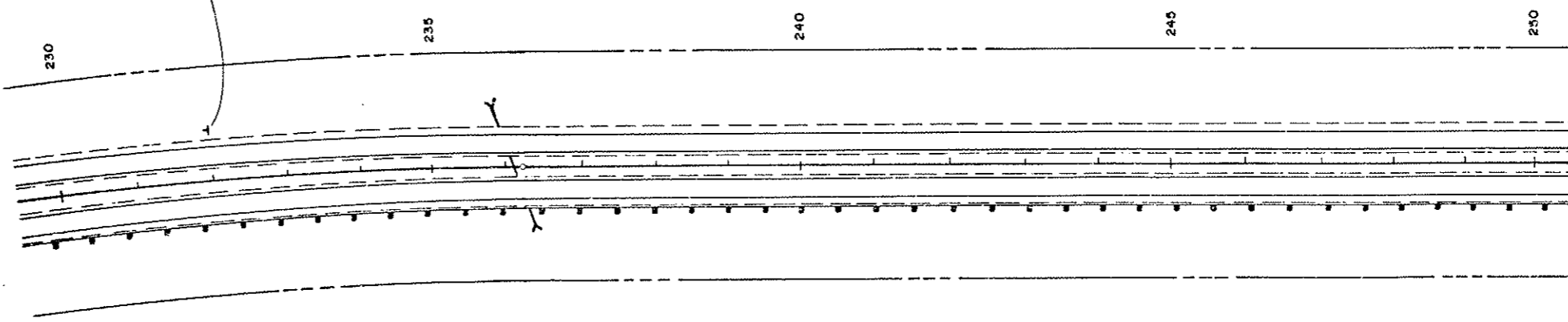
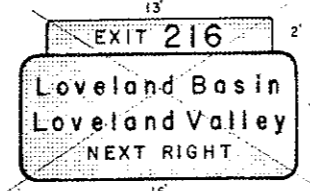
SIGNS MARKED ARE TO REMAIN IN PLACE.
*- THESE SIGNS APPLY TO BOTH NORTH AND SOUTH TUNNEL CLOSURES.


FINAL SIGNING

AS CONSTRUCTED			FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	REVISED	VOID	VTL	COLORADO	I 70-3(84) 220	101	1



Removed & Reset Sta. 190±Rt.



SIGNS MARKED  ARE TO REMAIN IN PLACE