

# STATE DEPARTMENT OF HIGHWAYS

## DIVISION OF HIGHWAYS—STATE OF COLORADO

PE, R.O.W. & UTILITIES  
UNDER PROJECT  
CC 04-0025-19

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.
VIII	COLORADO	CC 04-0025-19	1

AS CONSTRUCTED			
NO REVISIONS	REVISED	8-17-87	VOID

REVISIONS	

PLAN AND PROFILE OF PROPOSED  
PROJECT NO. CC 04-0025-19

BRIARGATE INTERCHANGE  
STATE HIGHWAY 25  
EL PASO COUNTY

W. M. CRAMER

INDEX OF SHEETS

\*TABULATION OF LENGTH

DESCRIPTION	FEET	MILES
1322+21 BEGIN CC 04-0025-19 = 322+21 ON I-25-2(48)150 MP 150.5	3566.70	.676
1357+87.70 BK. EQUATION 1357+88.90 AH.	4191.05	.794
1399+79.95 END CC 04-0025-19 = 399+79.95 ON I-25-2(48)150 MP 152.0		
<b>TOTAL NET AND GROSS LENGTH</b>	<b>7757.75</b>	<b>1.470</b>

SCALES OF ORIGINAL DRAWINGS  
 ON PLAN 1" = 50'  
 ON PROFILE 1" = 50' HORIZONTAL  
 1" = 10' VERTICAL

*DESIGN DATA	
MAXIMUM DEGREE OF CURVE	19°
MAXIMUM GRADE	6%
MINIMUM SSD (VERTICAL)	311'
MINIMUM SSD (HORIZONTAL)	351'
MAXIMUM DESIGN SPEED	BRIARGATE PRKWY 40 MPH RAMP 30 MPH SH. 83 40 MPH
2005 DESIGN TRAFFIC VOLUME -	
BRIARGATE PRKWY. ADT	39900
DHV	3990
I-25 ADT	94800
DHV	9480
SH 83 ADT	15000
DHV	1500
4% TRUCKS	

SHEET NO.	DESCRIPTION
1	TITLE SHEET, TABULATION OF LENGTH, AND DESIGN DATA
2	STANDARD SECTIONS LIST
3-4	TYPICAL SECTIONS
5-10	SUMMARY OF APPROXIMATE QUANTITIES
11-13	STRUCTURE QUANTITIES
14	GENERAL NOTES, TABULATION OF ROADWAY EXCAVATION AND EMBANKMENT, GENERAL SOIL DESCRIPTIONS, AND SUMMARY OF EARTHWORK
15	TABULATION OF SURFACING QUANTITIES
16	DETAIL - CULVERT OUTLET EROSION PROTECTION, TYPICAL SECTION - DRAINAGE DITCH, TABULATION OF: FENCING, DELINEATORS, CURB AND GUTTER, GUARDRAIL
17	TABULATION OF: REMOVAL OF ASPHALT MAT, MEDIAN COVER MATERIAL (PATTERNED CONCRETE) MEDIAN EDGING (PATTERNED CONCRETE) CONCRETE CURB RAMPS AND CONCRETE SIDEWALKS, SEEDING, MULCHING AND FERTILIZER
18-19	GEOMETRIC PLANS
20	INTERSECTION DETAIL - S.H. 83
21	INTERSECTION DETAILS - SPRINGCREST ROAD, BRIARGATE, NE & SE RAMPS
22	RAMP NOSE DETAILS
23	ROADWAY DETAILS, DESIGN HOUR VOLUMES
24-26	UTILITIES & PATTERNED CONCRETE ON S.H. 83
27-38	STRUCTURE CROSS SECTIONS
39-68	DETAILS OF STRUCTURE NO. I-17-1J
69-87	ROADWAY PLAN AND PROFILE
88-91	LIGHTING PLANS & TABULATION OF LIGHTING
92-96	GRADING PLAN
97	TABULATION OF SIGNING QUANTITIES AND SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES
98	TABULATION OF OVERHEAD SIGNS
99	TABULATION OF PAVEMENT MARKINGS
100-102	TABULATION OF SIGNS
103	DETAILS FLASHING BEACON (PORTABLE)
104-105	CLASS III SIGNS SHEET ALUMINUM PANELS
106-110	OVERHEAD SIGNS
111-116	SIGNING AND MARKING PLANS
117	DETOUR - OVERHEIGHT VEHICLES
118-123	CROSS SECTIONS CLASS III SIGNS
124	TABULATION OF TRAFFIC SIGNAL QUANTITIES AND PLAN - TRAFFIC SIGNAL INSTALLATION
125-127	DETAILS - TRAFFIC SIGNAL INSTALLATION
128&129	STANDARD M-604-12 (SPECIAL THIS PROJECT)
130&131	STANDARD S-614-5 (SPECIAL THIS PROJECT)
NEW AND REVISED STANDARDS	
M-606-12	GUARD RAIL - TYPE 4 CONCRETE BARRIER (9 SHEETS) 2/18/83

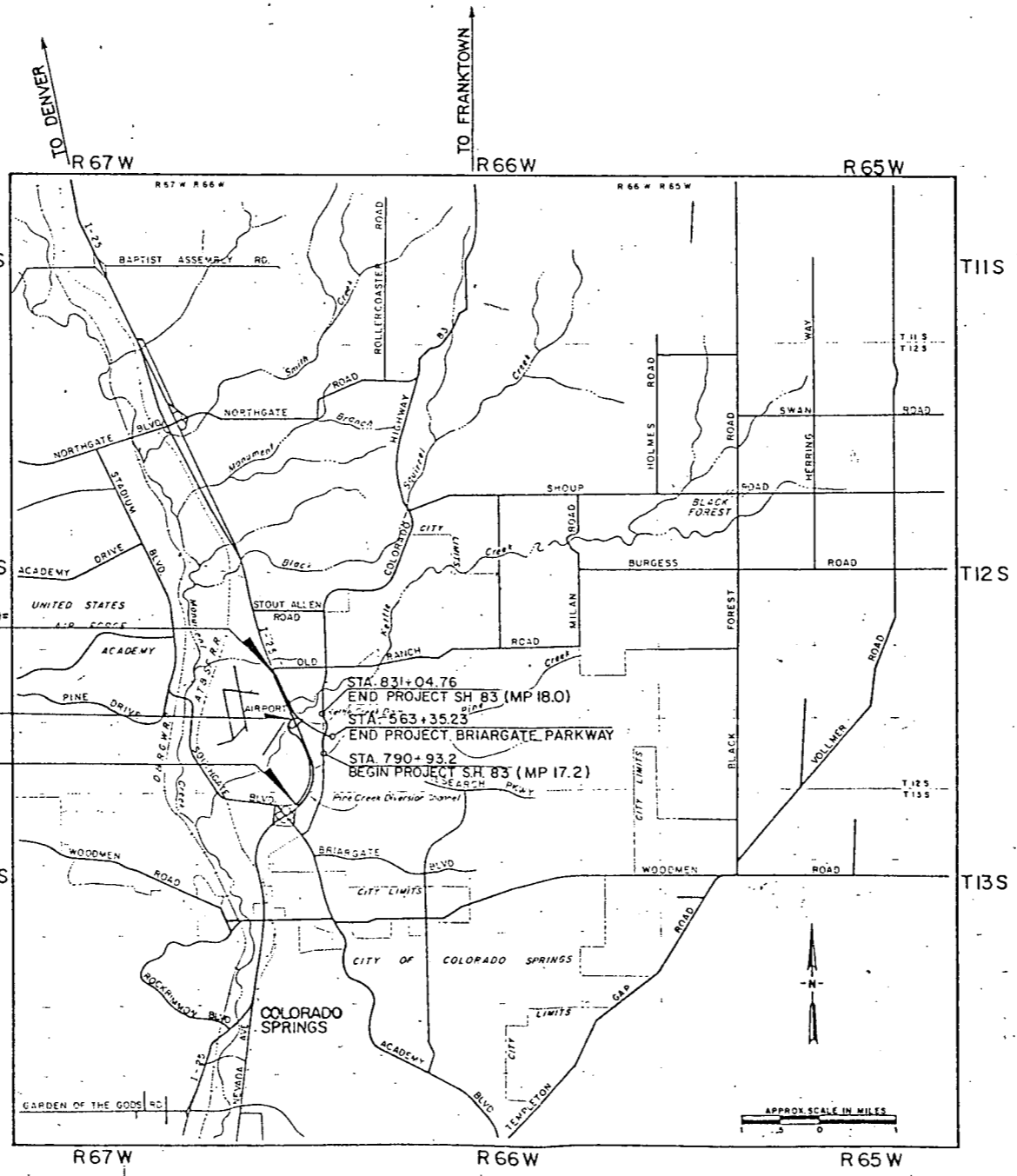
ROADWAY AND BRIDGE WORK WILL BE COMPLETED ON THE PROJECT.

\* For Information Only, No I 25 Length Involved.

DESCRIPTION	ROADWAY		MAJOR STRUCTURE	
	FEET	MILES	FEET	MILES
STA. 527+46.66 TO STA. 536+25.32	878.66	.166	250.47	.047
STA. 536+25.32 TO STA. 538+75.79				
STA. 538+75.79 TO STA. 563+35.23	2459.44	.466		
<b>TOTALS</b>	<b>3338.10</b>	<b>.632</b>	<b>250.47</b>	<b>.047</b>

1399+79.95 END CC 04-0025-19 =  
399+79.95 ON I 25-2(48)150  
(MP 152.0)  
STR. NO. I-17-1J

1322+21 BEGIN CC 04-0025-19 =  
322+21 ON I 25-2(48)150  
(MP 150.5)



URS ENGINEERING COMPANY

APPROVED: *[Signature]* 2-20-86  
VICE-PRESIDENT DATE

DIVISION OF HIGHWAYS

APPROVED: *[Signature]* 5-19-86  
CHIEF ENGINEER DATE

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: \_\_\_\_\_ DATE \_\_\_\_\_  
DIVISION ADMINISTRATOR

AS CONSTRUCTED INFORMATION

CONTRACTOR FLATIRON STRUCTURES, INC.  
ENGINEER WARREN CRAMER  
(Project or Resident)  
PROJECT STARTED 7-7-86  
PROJECT COMPLETED 8-17-87  
AS CONSTRUCTED PLANS APPROVED *[Signature]*  
DISTRICT CONSTRUCTION SUPERVISOR  
TITLE \_\_\_\_\_ DATE 7/26/88  
DISTRICT CONSTRUCTION SUPERVISOR

Plan No.	Title	Page
<input checked="" type="checkbox"/> M-100-1	STANDARD SYMBOLS.....	1
<input checked="" type="checkbox"/> M-107-1	TEMPORARY EROSION CONTROL.....	2
<input checked="" type="checkbox"/> M-203-1	APPROACH ROADS, FLARING, CUT SLOPE TREATMENT, BRIDGE & CREST WIDENING.....	3
<input checked="" type="checkbox"/> M-203-2	DITCH TYPES.....	4
<input type="checkbox"/> M-203-10	SUPERELEVATION OF CURVES - CROWNED HIGHWAYS.....	5
<input checked="" type="checkbox"/> M-203-11	SUPERELEVATION OF CURVES - DIVIDED HIGHWAYS - SHOULDER PIVOT.....	6
<input checked="" type="checkbox"/> M-203-12	SUPERELEVATION OF CURVES - STREETS.....	7
<input checked="" type="checkbox"/> M-203-13	SUPERELEVATION OF CURVES - DIVIDED HIGHWAYS - CENTER PIVOT.....	8
<input checked="" type="checkbox"/> M-206-1	EXCAVATION AND BACKFILL FOR STRUCTURES.....(2 SHEETS)	9
<input checked="" type="checkbox"/> M-206-2	EXCAVATION AND BACKFILL FOR BRIDGES.....	11
<input type="checkbox"/> M-214-1	PLANTING DETAILS.....	12
<input type="checkbox"/> M-412-1	CONCRETE PAVEMENT JOINTS.....	13
<input type="checkbox"/> M-504-1	STEEL CRIBBING.....	14
<input type="checkbox"/> M-506-1	GABIONS AND SLOPE MATTRESS.....	15
<input type="checkbox"/> M-510-1	STRUCTURAL PLATE CULVERT PIPE - H-20 LOADING.....(2 SHEETS)	16
<input type="checkbox"/> M-601-1	SINGLE CONCRETE BOX CULVERT.....	18
<input type="checkbox"/> M-601-2	DOUBLE CONCRETE BOX CULVERT.....	19
<input type="checkbox"/> M-601-3	TRIPLE CONCRETE BOX CULVERT.....	20
<input type="checkbox"/> M-601-10	HEADWALL FOR PIPE CULVERTS.....	21
<input checked="" type="checkbox"/> M-601-11	TYPE "S" SADDLE HEADWALL FOR PIPE CULVERTS.....	22
<input type="checkbox"/> M-601-12	HEADWALL, INTERCEPTING HEADWALL AND CULVERT OUTLET PAVING.....	23
<input type="checkbox"/> M-601-20	WINGWALLS FOR PIPE OR BOX CULVERTS.....	24
<input checked="" type="checkbox"/> M-603-1	METAL CULVERT PIPE - H-20 LOADING.....(2 SHEETS)	25
<input checked="" type="checkbox"/> M-603-2	REINFORCED CONCRETE PIPE.....	27
<input type="checkbox"/> M-603-3	PRECAST CONCRETE BOX CULVERT.....	28
<input checked="" type="checkbox"/> M-603-10	CONCRETE AND METAL END SECTIONS.....	29
<input checked="" type="checkbox"/> M-604-1	PIPE SEWER IN TRENCH.....	30
<input checked="" type="checkbox"/> M-604-10	INLET, TYPE C.....	31
<input type="checkbox"/> M-604-11	INLET, TYPE D.....	32
<input type="checkbox"/> M-604-12	CURB INLET, TYPE R.....(2 SHEETS)	33
<input type="checkbox"/> M-604-13	CONCRETE INLET, TYPE 13.....	35
<input checked="" type="checkbox"/> M-604-20	MANHOLES.....	36
<input checked="" type="checkbox"/> M-604-21	STEPS FOR MANHOLES & INLETS.....	37
<input checked="" type="checkbox"/> M-606-1	GUARD RAIL, TYPE 3, W-BEAM.....(8 SHEETS)	38
<input type="checkbox"/> M-606-2	GUARD RAIL, TYPE 3, W-BEAM FOR LOCAL ROADS & STREETS.....(4 SHEETS)	46
<input type="checkbox"/> M-606-10	GUARD RAIL, TYPE 4, CONCRETE BARRIER, CAST-IN-PLACE.....	50
<input type="checkbox"/> M-606-11	GUARD RAIL, TYPE 4, CONCRETE BARRIER, PRECAST-PORTABLE.....	51

Plan No.	Title	Page
<input checked="" type="checkbox"/> M-607-1	WIRE FENCES AND GATES.....(2 SHEETS)	52
<input type="checkbox"/> M-607-2	CHAIN LINK FENCE.....(3 SHEETS)	54
<input type="checkbox"/> M-607-3	BARRIER FENCE.....	57
<input type="checkbox"/> M-607-4	DEER FENCE AND GATE.....(2 SHEETS)	58
<input type="checkbox"/> M-607-10	PICKET SNOW FENCE.....	60
<input checked="" type="checkbox"/> M-608-1	CURB RAMPS.....	61
<input checked="" type="checkbox"/> M-609-1	CURBS AND GUTTERS.....	62
<input type="checkbox"/> M-611-1	CATTLE GUARD - WELDED GRILL UNITS - 10' THRU 42' ROADWAYS.....(2 SHEETS)	63
<input checked="" type="checkbox"/> M-613-1	HIGHWAY LIGHTING.....(2 SHEETS)	65
<input type="checkbox"/> M-615-1	EMBANKMENT PROTECTOR, TYPES 3 & 4.....	67
<input type="checkbox"/> M-615-2	EMBANKMENT PROTECTOR, TYPE 5.....	68
<input type="checkbox"/> M-616-1	INVERTED SIPHON.....(ALSO USE M-603 OR M-604 AS REQUIRED)	69
<input type="checkbox"/> M-620-1	FIELD LABORATORY - CLASS 1.....	70
<input checked="" type="checkbox"/> M-620-2	FIELD LABORATORY - CLASS 2.....	71
<input type="checkbox"/> M-620-11	FIELD OFFICE - CLASS 1.....	72
<input checked="" type="checkbox"/> M-620-12	FIELD OFFICE - CLASS 2.....	73

Plan No.	Title	Page
<input checked="" type="checkbox"/> S-612-1	TYPICAL DELINEATOR INSTALLATIONS.....(4 SHEETS)	75
<input checked="" type="checkbox"/> S-614-1	TYPICAL GROUND SIGN PLACEMENT.....	79
<input checked="" type="checkbox"/> S-614-2	CLASS I GROUND SIGN INSTALLATIONS.....	80
<input checked="" type="checkbox"/> S-614-3	CLASS II GROUND SIGN INSTALLATIONS.....	81
<input checked="" type="checkbox"/> S-614-4	CLASS III SIGNS, LAMINATED ALUMINUM PANELS AND POST SPACING TABLE.....(2 SHEETS)	82
<input type="checkbox"/> S-614-5	BREAK-AWAY SIGN SUPPORT DETAILS FOR GROUND SIGNS.....(2 SHEETS)	84
<input checked="" type="checkbox"/> S-614-6	CONCRETE FOOTINGS AND SIGN ISLANDS FOR CLASS III SIGNS.....(2 SHEETS)	86
<input type="checkbox"/> S-614-10	TYPICAL MARKER ASSEMBLY INSTALLATIONS.....	88
<input type="checkbox"/> S-614-11	MILEPOST SIGN AND INSTALLATION.....	89
<input checked="" type="checkbox"/> S-614-12	STRUCTURE NUMBER INSTALLATION (BRIDGE INFORMATION SHEET).....	90
<input type="checkbox"/> S-614-13	STANDARD RAILROAD CROSSING SIGNS AND MARKINGS.....	91
<input checked="" type="checkbox"/> S-614-20	TYPICAL POLE MOUNT SIGN INSTALLATION.....	92
<input checked="" type="checkbox"/> S-614-21	CONCRETE BARRIER SIGN POST INSTALLATIONS.....	93
<input checked="" type="checkbox"/> S-614-22	TYPICAL MULTI-SIGN INSTALLATIONS.....	94
<input checked="" type="checkbox"/> S-614-30	INTERSTATE ROUTE MARKERS.....	95
<input checked="" type="checkbox"/> S-614-31	U. S. & COLORADO ROUTE MARKERS.....	96
<input checked="" type="checkbox"/> S-614-32	AUXILIARY MARKERS.....	97
<input type="checkbox"/> S-614-40	TRAFFIC SIGNAL INSTALLATION DETAILS...(3 SHEETS)	98
<input checked="" type="checkbox"/> S-614-50	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION.....(4 SHEETS)	101
<input checked="" type="checkbox"/> S-614-51	BARRICADES, DRUMS, CONCRETE BARRIER (TEMP) & VERTICAL PANELS.....	105
<input checked="" type="checkbox"/> S-627-1	TYPICAL PAVEMENT MARKINGS.....(3 SHEETS)	106

THE STANDARD PLAN SHEETS INDICATED HEREON BY A MARKED BOX ARE TO BE USED TO CONSTRUCT THIS PROJECT.

DEPARTMENT OF HIGHWAYS  
 STATE OF COLORADO  
 DIVISION OF HIGHWAYS

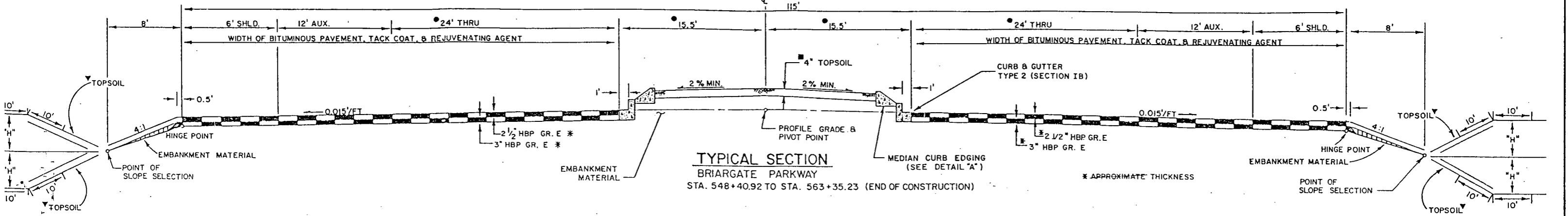
**STANDARD PLANS LIST**

M & S STANDARDS - JANUARY, 1982

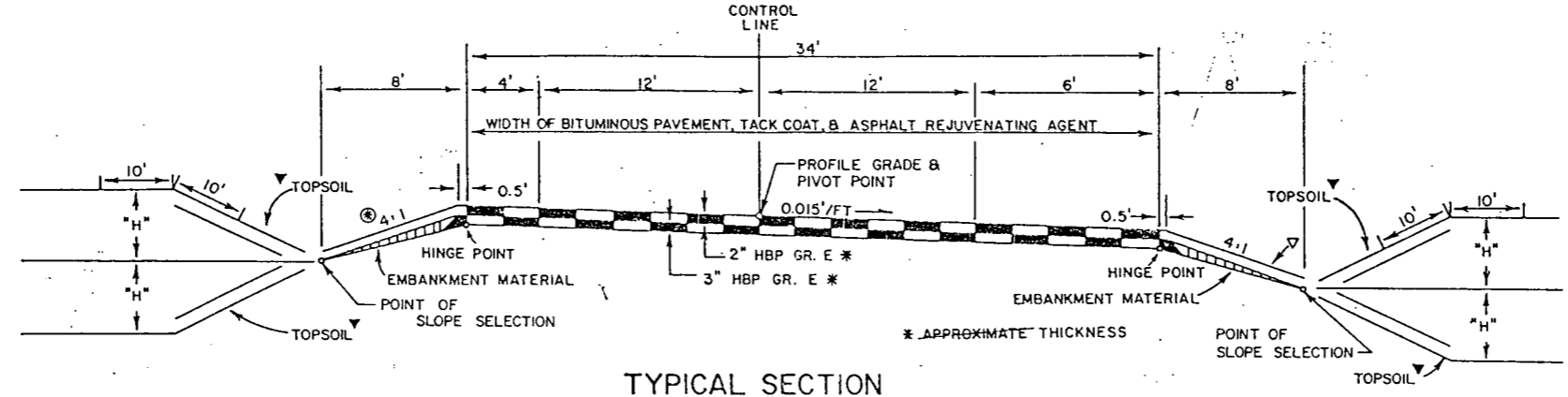
NOTE:  
SEE INTERSECTION LAYOUT SHEETS  
FOR LOCATION OF LEFT TURN LANES.

AS CONSTRUCTED  
NO REVISIONS [ ] REVISED [8-17-87] VOID [ ]

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	3	



- NOTE:
- 4" TOPSOIL WITH MEDIAN EDGING WILL BE USED FOR MEDIAN WIDER THAN 19' AND ALSO ON BRIARGATE PARKWAY FROM STA. 539+00 TO STA. 555+20 (SEE DETAIL)
  - MEDIAN COVER MATERIAL (PATTERNED CONCRETE) ONLY, WILL BE USED FOR MEDIANS 19' WIDE AND LESS.



- NOTE:
- ① SLOPE FLATTER THAN 6:1  
② THESE LOCATIONS:  
Sta. 412+00± to Sta. 414+00± SW Loop Ramp  
Sta. 106+50± to Sta. 108+00± SE Ramp

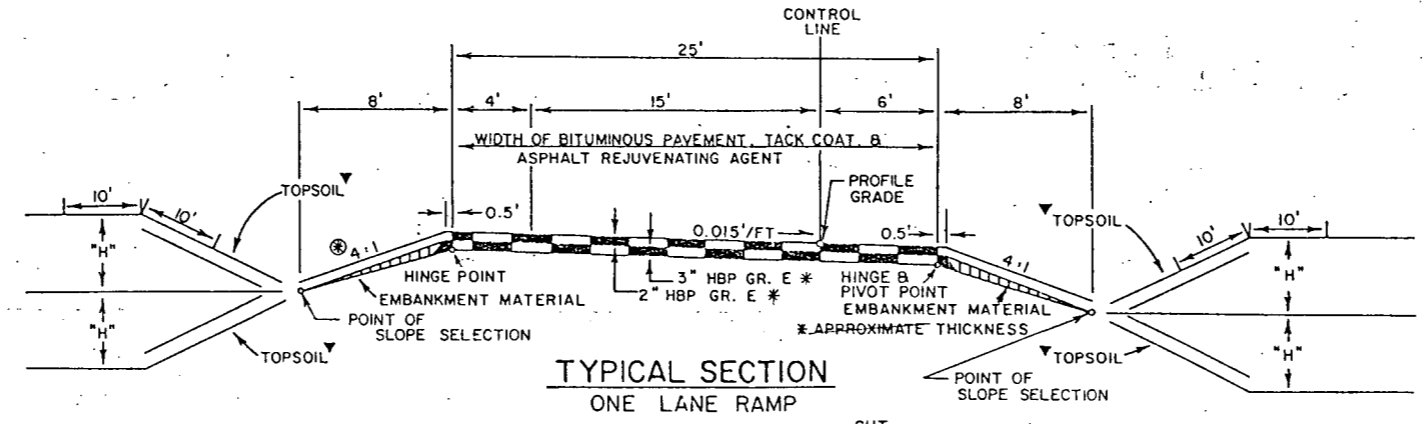
BRIARGATE PKWY  
SLOPE SELECTION TABLE

SLOPE	HEIGHT "H" OF CUT	HEIGHT "H" OF FILL
4:1	—	0' TO 10'
3:1	ALL	OVER 10'

RAMPS  
SLOPE SELECTION TABLE

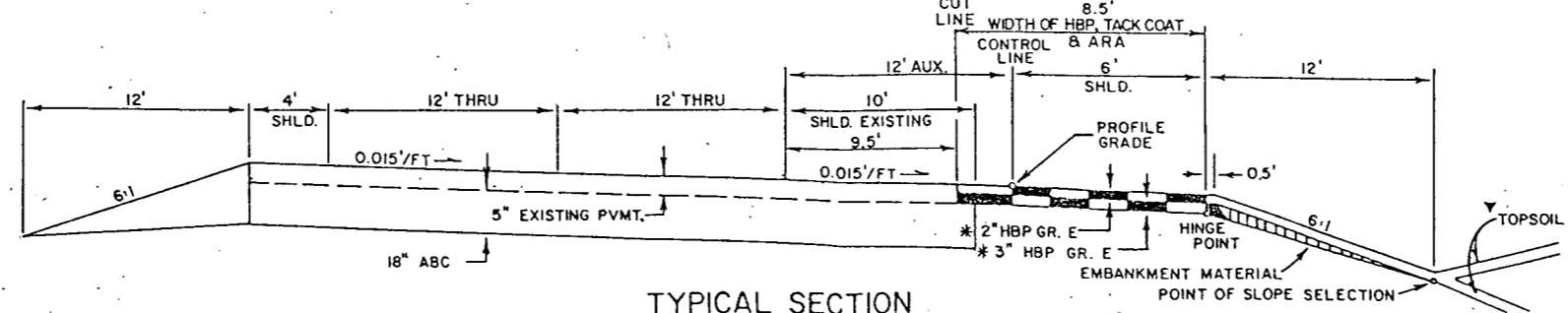
SLOPE	HEIGHT "H" OF CUT	HEIGHT "H" OF FILL
4:1	—	0' TO 10'
3:1	ALL	OVER 10'

- NOTES:
- THE DEPTH AND WIDTH OF THE SIDE DITCH SHALL BE VARIED WHERE NECESSARY IN ORDER TO PROVIDE PROPER DRAINAGE.
  - MATERIAL SHALL BE PLACED IN SEPARATE COURSES AT THE FOLLOWING APPROXIMATE RATES PER 100 LIN. FT.
- BRIARGATE PARKWAY**
- |                      |          |
|----------------------|----------|
| HBP TOP LAYER        | 128 TONS |
| (GR. E) BOTTOM LAYER | 154 TONS |
- TWO LANE RAMP**
- |                      |         |
|----------------------|---------|
| HBP TOP LAYER        | 42 TONS |
| (GR. E) BOTTOM LAYER | 62 TONS |
- ONE LANE RAMP**
- |                      |         |
|----------------------|---------|
| HBP TOP LAYER        | 31 TONS |
| (GR. E) BOTTOM LAYER | 46 TONS |
- INTERSTATE 25**
- |                      |         |
|----------------------|---------|
| HBP TOP LAYER        | 10 TONS |
| (GR. E) BOTTOM LAYER | 16 TONS |
- 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.
- THE CONTRACTOR WILL BE REQUIRED TO PLACE TOPSOIL TO THIS LINE AFTER COMPLETION OF PAVING OPERATION. TOPSOIL SHALL BE 4 INCHES THICK.
  - BREAK POINTS ON SLOPES & IN BOTTOMS OF DITCHES SHALL BE ROUNDED ON CONSTRUCTION FOR A PLEASING APPEARANCE. SEE STANDARDS FOR DETAILS OF CUT SLOPE TREATMENT, FLARING, & WIDENING.
  - WHERE EXISTING ASPHALT PAVEMENT IS TO BE WIDENED, IT SHALL BE CUT TO A NEAT WORK LINE WITH A CUTTING WHEEL ATTACHED TO A BLADE OR OTHER METHOD AS APPROVED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS SUBSIDIARY TO REMOVAL OF ASPHALT MAT.



I-25  
SLOPE SELECTION TABLE

SLOPE	HEIGHT "H" OF CUT	HEIGHT "H" OF FILL
6:1	—	0' TO 10'
4:1	—	10' TO 25'
3:1	ALL	OVER 25'



TYPICAL SECTION  
I 25

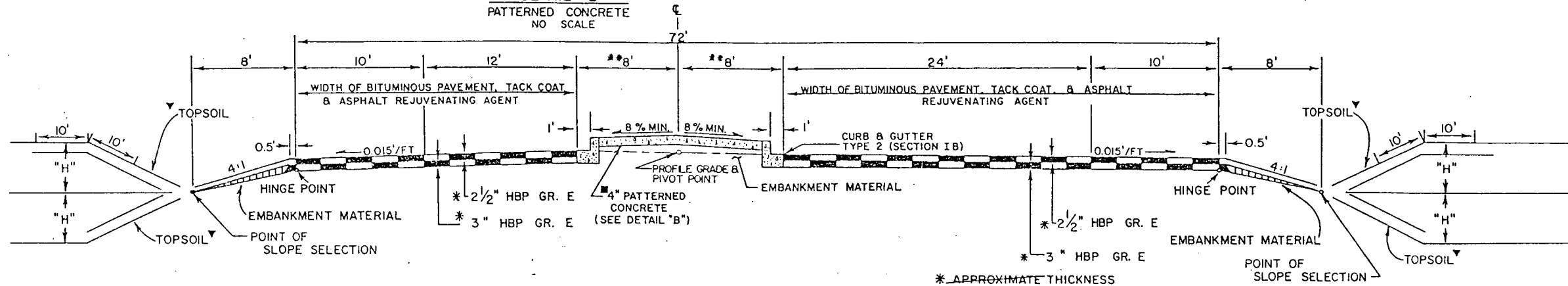
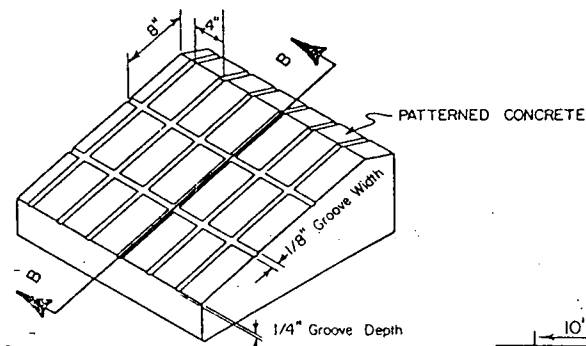
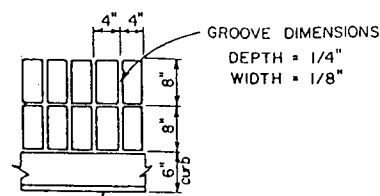
I 25/BRIARGATE PARKWAY INTERCHANGE  
TYPICAL SECTION

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS		OF SHEETS	

PREPARED BY URS COMPANY, DENVER

NOTE: PATTERNED CONC. COLOR SHALL BE ONE OF THE FOLLOWING:

- |                  |                     |
|------------------|---------------------|
| <u>COLOR</u>     | <u>MANUFACTURER</u> |
| 1. RUSSET (A-24) | L.M. SCOFIELD CO.   |
| 2. RUST BROWN    | BOMANITE CORP.      |



**TYPICAL SECTION**  
(LOOKING BACK STATION)

BRIARGATE PARKWAY  
 STA. 527+46.66 TO STA. 536+25.32  
 \*\* STA. 538+75.79 TO STA. 548+40.92  
 (MEDIAN WIDTH VARIES 16' TO 31')

S.W. LOOP RAMP  
 (MEDIAN ONLY)  
 STA. 419+92.50 TO 421+47.07

NOTE:

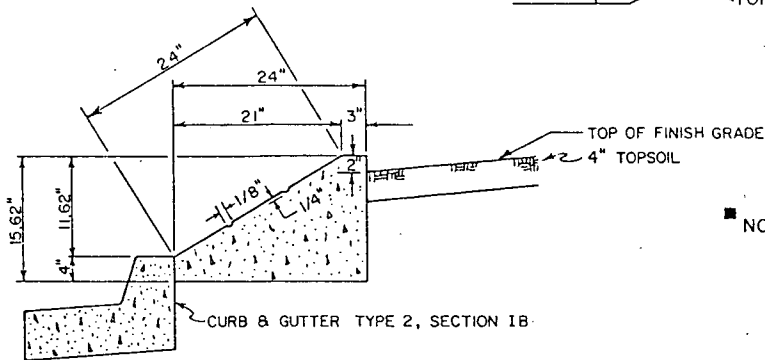
- 4" TOPSOIL WITH MEDIAN EDGING WILL BE USED FOR MEDIAN WIDER THAN 19' AND FOR BRIARGATE PKWY. STA. 539+00 TO STA. 555+20
- MEDIAN COVER MATERIAL (PATTERNED CONCRETE) ONLY, WILL BE USE FOR MEDIAN 19' WIDE AND LESS. (PAN LINE TO PAN LINE).

NOTE:

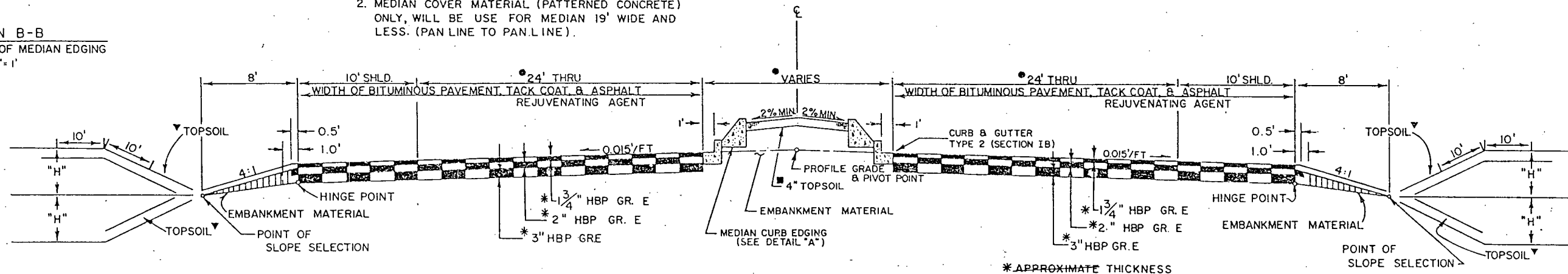
SEE INTERSECTION LAYOUT SHEETS FOR LOCATION OF LEFT TURN LANES.

BRIARGATE PKWY  
SLOPE SELECTION TABLE

SLOPE	HEIGHT "H" OF CUT	HEIGHT "H" OF FILL
4:1	—	0' TO 10'
3:1	ALL	OVER 10'



SECTION B-B  
TYPICAL SECTION OF MEDIAN EDGING  
ORIG. SCALE: 1" = 1'



**TYPICAL SECTION**

S.H. 83

STATE HIGHWAY 83 - HBP (GR. E)

TOP LAYER.....	86 TONS	TOP LAYER.....	73 TONS
BOTTOM LAYER.....	103 TONS	MIDDLE LAYER.....	83 TONS
		BOTTOM LAYER.....	125 TONS

S.H. 83  
SLOPE SELECTION TABLE

SLOPE	HEIGHT "H" OF CUT	HEIGHT "H" OF FILL
4:1	—	0' TO 10'
3:1	ALL	OVER 10'

- NOTE:
- THE DEPTH AND WIDTH OF THE SIDE DITCH SHALL BE VARIED WHERE NECESSARY IN ORDER TO PROVIDE PROPER DRAINAGE.
  - MATERIAL SHALL BE PLACED IN SEPARATE COURSES AT THE FOLLOWING APPROXIMATE RATES PER 100 LIN. FT.

BRIARGATE PARKWAY - HBP (GR. E)

TOP LAYER.....	86 TONS
BOTTOM LAYER.....	103 TONS

- 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.
- THE CONTRACTOR WILL BE REQUIRED TO PLACE TOPSOIL TO THIS LINE AFTER COMPLETION OF PAVING OPERATION. TOPSOIL SHALL BE 4 INCHES THICK.
  - BREAK POINTS ON SLOPES & IN BOTTOMS OF DITCHES SHALL BE ROUNDED ON CONSTRUCTION FOR A PLEASING APPEARANCE. SEE STANDARDS FOR DETAILS OF CUT SLOPE TREATMENT, FLARING, & WIDENING.

125/BRIARGATE PARKWAY INTERCHANGE				
TYPICAL SECTION				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF	SHEETS

PREPARED BY - URS COMPANY - DENVER

# SUMMARY OF APPROXIMATE QUANTITIES

AS CONSTRUCTED		FEDERAL ROAD REGION NO. VIII	DIVISION COLORADO	PROJ. NO. CC 04-0025-19	SHEET NO. 5	TOTAL SHEETS
NO REVISIONS	REVISED 8-17-87	VOID				

INDEX	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		BRIDGE STRUCT. NO. 1-17-1J		PROJECT TOTALS		DIFF. +/-	% PLAN	
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.			
				BOOK	PAGE	SHEET						
1	1	201	CLEARING AND GRUBBING	L.S.	1	1						
1	2	202	REMOVAL OF STRUCTURE	EACH	1	2						
1	3	202	REMOVAL OF DELINEATOR	EACH	30	75						
1	4	202	REMOVAL OF ASPHALT MAT	SQ YD.	15,438	15086						
1	5	202	REMOVAL OF PAVEMENT MARKING	SO FT.	5,000	2820						
1	6	202	REMOVAL OF OVERHEAD SIGN STRUCTURE	EACH	1	1						
1	7	202	REMOVAL OF GROUND SIGN	EACH	11	18						
1	8	202	REMOVAL OF SIGN PANEL	EACH	1	1						
1	9	202	REMOVAL OF FENCE	LIN. FT.	4,195	3,480						
1	10	202	REMOVAL OF GUARD RAIL TYPE A	LIN. FT.	130	130						
1	11	203	EMBANKMENT MATERIAL (COMPLETE IN PLACE)	CU. YD.	355,188	393,859						
1	12	206	STRUCTURE EXCAVATION	CU. YD.	3,651	3,651	625	625	4,276	4,276	0	100
1	13	206	STRUCTURE BACKFILL (CLASS 1)	CU. YD.			2,960	2,960	2,960	2,960	0	100
1	14	206	STRUCTURE BACKFILL (CLASS 2)	CU. YD.	1,585	1,585	315	315	1,900	1,900	0	100
1	16	206	FILTER MATERIAL (CLASS B)	CU. YD.			135	230	135	230	+95	170.4
1	17	207	TOPSOIL (HAUL)	CU. YD.	31,642	40,198			31,642	40,198	+8556	127
1	18	207	STOCKPILE TOPSOIL (HAUL)	CU. YD.	31,642	40,198			31,642	40,198	+8556	127
1	19	209	WETTING	M. GAL.	5,000	75			5,000	75	-4925	1.5
1	20	210	RESET END SECTION	EACH	3	3			3	3	0	100
1	21	210	ADJUST MANHOLE MCR 1 LINE # 7	L.S.	0	1			0	1	+1	
1	22	210	RESET GROUND SIGN	EACH	2	10			2	10	+8	500
1	24	212	SEEDING (NATIVE)	ACRE	52	79.39			52	79.39	+27.39	152.7
1	23	210	RESET GUARD RAIL TYPE 3 MCR 1 LINE #12	LIN. FT.	0	137			0	137	+137	
1	25	213	MULCHING	ACRE	52	79.39			52	79.39	+27.39	152.7
1	26	213	MULCH TACKIFIER	LBS	5200	7939			5200	7939	+2739	152.7
1	27-28	403	HOT BITUMINOUS PAVEMENT (GRADING E) (HAUL AND ASPHALT)	TON	32,041	32,064.15	175	175	32,216	32,239.15	+23.15	100.1
1	29	411	EMULSIFIED ASPHALT (SLOW-SETTING)	GAL.	6656	7376			6656	7376	+720	110.8
1	30	411	ASPHALT REJUVENATING AGENT	GAL.	4919	4,788			4919	4,788	-131	97.3
1	31	503	DRILLED CAISSON (18 INCH)	LIN. FT.			2,091	2,273	2,091	2,273	182	108.7
1	32	503	DRILLED CAISSON (24 INCH)	LIN. FT.			3,606	3,661	3,606	3,661	+55	101.5
1	33	503	DRILLED CAISSON (48 INCH)	LIN. FT.			742	740	742	740	-2	99.7

# SUMMARY OF APPROXIMATE QUANTITIES

AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	REVISED	VOID	VIII	COLORADO	CC 04-0025-19	6	

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		BRIDGE STRUCT. NO. 1-17-1J		PROJECT TOTALS		DIFF. +/-	% PLAN				
						PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.						
1	34		506	RIPRAP	CU. YD.	55	55			55	55	0	100				
1	35		506	PLASTIC FILTER CLOTH	SQ. YD.	126	126			126	126	0	100				
1	36		507	BITUMINOUS SLOPE PAVING MCR 1 LINE # 10	TON	0	3.28			0	3.28	+3.28					
1	37		507	CONCRETE SLOPE AND DITCH PAVING	CU. YD.	6	6			6	6	0	100				
1	38		509	STRUCTURAL STEEL	LB.			1,035	1035	1,035	1,035	0	100				
1	39		509	STRUCTURAL STEEL (GALVINIZED) MCR 1 LINE # 8	LB.			0	1,922	0	1,922	+1922					
1	40		515	WATERPROOFING (MEMBRANE)	SQ. YD.			1,614	1614	1,614	1,614	0	100				
1	41		518	WATERSTOP (6 INCH)	LIN. FT.			83	167	83	167	+84	201				
1	42		601	CONCRETE CLASS A (BRIDGE)	CU. YD.			426	453.6	426	453.6	+27.6	106.4				
1	43		601	CONCRETE CLASS A (WALL)	CU. YD.	1	1	890	946.7	891	947.7	+56.7	106.4				
1	44		601	CONCRETE CLASS D (BRIDGE)	CU. YD.			1,676	1676	1,676	1,676	0	100				
1	45-48		602	REINFORCING STEEL	LB.	26	26	446,260	457,242	446,286	457,268	+10,982	102.5				
1	49		602	REINFORCING STEEL (EPOXY COATED)	LB.			93,085	93,085	93,085	93,085	0	100				
1	50		603	15 INCH REINFORCED CONCRETE PIPE	LIN. FT.	248	248			248	248	0	100				
1	51		603	24 INCH REINFORCED CONCRETE PIPE	LIN. FT.	462	488			462	488	+26	105.6				
1	52		603	30 INCH REINFORCED CONCRETE PIPE	LIN. FT.	48	48			48	48	0	100				
1	53		603	36 INCH REINFORCED CONCRETE PIPE	LIN. FT.	1,568	1,570			1,568	1,570	+2	100.1				
1	54		603	15 INCH REINFORCED CONCRETE END SECTION	EACH	3	3			3	3	0	100				
1	55		603	24 INCH REINFORCED CONCRETE END SECTION	EACH	4	4			4	4	0	100				
1	56		603	30 INCH REINFORCED CONCRETE END SECTION	EACH	1	1			1	1	0	100				
1	57		603	36 INCH REINFORCED CONCRETE END SECTION	EACH	5	5			5	5	0	100				
1	58		603	8 INCH CORRUGATED STEEL PIPE	LIN. FT.	1,308	1,458			1,308	1,458	+150	111.5				
1	59		603	10 INCH CORRUGATED STEEL PIPE	LIN. FT.	250	40			250	40	-210	16				
1	60		604	INLET TYPE C (5 FOOT)	EACH	4	4			4	4	0	100				
1	61		604	INLET TYPE RL 5 (5 FOOT)	EACH	1	1			1	1	0	100				
1	62		604	INLET TYPE RL 5 (10 FOOT)	EACH	1	1			1	1	0	100				
1	63		604	INLET TYPE RL 10 (5 FOOT)	EACH	4	4			4	4	0	100				
1	64		604	INLET TYPE RL 15 (5 FOOT)	EACH	1	1			1	1	0	100				
1	64A		604	CAP INLET MCR 1 LINE # 18	L.S. L	0	11			0	11	+1					
1	65		604	MANHOLE SLAB BASE (5 FOOT)	EACH	1	1			1	1	0	100				

# SUMMARY OF APPROXIMATE QUANTITIES

AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	REVISED 8-17-87	VIII	COLORADO	CCO4 0025 (19)	7	

INDEX	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		BRIDGE STRUCTURE NO.		PROJECT TOTALS		DIFF. +/-	% PLAN					
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.							
1 66	604	MANHOLE BOX BASE (10 FOOT)	EACH	1	1			1	1 ✓	0	100					
1 67	604	MANHOLE BOX BASE (15 FOOT)	EACH	1	1			1	1 ✓	0	100					
1 68	604	15 INCH REINFORCED CONCRETE PIPE SEWER	LIN. FT.	376	374			376	374 ✓	-2	95					
1 69	604	36 INCH REINFORCED CONCRETE PIPE SEWER	LIN. FT.	170	170			170	170 ✓	0	100					
1 70	606	GUARD RAIL TYPE 3 (6'-3" POST SPACING) MCR I LINE #9	LIN. FT.	1350	1650			1350	1650 ✓	+300	122					
1 71	606	GUARD RAIL TYPE 4	LIN. FT.	1309	1125			1309	1125 ✓	-184	85.9					
1 72	606	*GUARD RAIL TYPE 4 (PRECAST-PORTABLE)	LIN. FT.	1286	1296			1286	1296 ✓	+10	100.8					
1 72A	606	FOOTER-BRIDGE RAIL TYPE 4 SPECIAL MCR I LINE #17	L. S.	0	1			0	1 ✓	+1						
1 73	606	END ANCHORAGE TYPE 3D	EACH	8	10			8	10 ✓	+2	125					
1 74	606	END ANCHORAGE TYPE 3E MCR I LINE # 13	EACH	10	14			10	14 ✓	+4	140					
1 75	606	BRIDGE RAIL TYPE 4 SPECIAL	LIN. FT.			501	725	501	725 ✓	+224	144.7					
1 76	607	END POST	EACH	2	0			2	0 ✓	-2	0					
1 77	607	CORNER AND LINE BRACE POST	EACH	1	0			1	0 ✓	-1	0					
1 78	607	FENCE COMBINATION WIRE WITH METAL POST	LIN. FT.	215	0			215	0 ✓	-215	0					
1 79	608	CONCRETE SIDEWALK	SQ. YD.	24	31			24	31 ✓	+7	129.2					
1 80	608	CONCRETE CURB RAMP	SQ. YD.	48	48			48	48 ✓	0	100					
1 81	609	CURB AND GUTTER TYPE 2 (SECTION I-B)	LIN. FT.	12,817	13020			12,817	13020 ✓	+203	101.6					
1 82	609	CURB AND GUTTER TYPE 6 M MCR I LINE # 11	LIN. FT.	0	1247			0	1247 ✓	+1247						
1 83	610	MEDIAN COVER MATERIAL (PATTERNED CONCRETE)	SQ. FT.	36,036	31,165	0	3250	36,036	31,165 ✓	-4871	86.5					
1 84	610	MEDIAN EDGING (PATTERNED CONCRETE)	LIN. FT.	9,870	6,522			9,870	6,522 ✓	-3,348	66.1					
1 85	612	DELINEATOR (TYPE I)	EACH	244	244			244	244 ✓	0	100					
1 86	612	DELINEATOR (TYPE II)	EACH	62	62			62	62 ✓	0	100					
1 87	612	DELINEATOR (TYPE III)	EACH	14	14			14	14 ✓	0	100					
1 88	612	WILDLIFE REFLECTOR	EACH	62	62			62	62 ✓	0	100					
1 89	613	1 INCH ELECTRICAL CONDUIT	LIN. FT.			592	835	592	835 ✓	+243	141					
1 90	613	2 INCH ELECTRICAL CONDUIT	LIN. FT.	15,718	14,608			15,718	14,608 ✓	-1110	92.9					
1 91	613	3 INCH ELECTRICAL CONDUIT	LIN. FT.	1950	1,809			1950	1,809 ✓	-141	92.8					
1 92	613	3 INCH ELECTRICAL CONDUIT (JACKED) MCR I LINE #1	LIN. FT.	610	515			610	515 ✓	-95	84.4					
1 93	613	4 INCH ELECTRICAL CONDUIT	LIN. FT.			509	614	509	614 ✓	+105	120.6					
1 95	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LIN. FT.	1500	1,960			1500	1,960 ✓	+460	130.7					
1 94	613	4 INCH ELECTRICAL CONDUIT (JACKED) MCR I LINE #2	LIN. FT.	0	305			0	305 ✓	-305						

\* INCLUDES 8 TRANSITION SECTIONS  
 THIS ITEM SHALL BE SALVAGED AND HAULED TO A BRIARGATE STORAGE SITE AS DIRECTED BY THE ENGINEER.

▲ INCLUDES 378 LINEAR FEET FOR INSTALLATION OF 21 POST TYPE METER DISCONNECTS.

# SUMMARY OF APPROXIMATE QUANTITIES

AS CONSTRUCTED			FEDERAL ROAD REGION NO. VIII	DIVISION COLORADO	PROJ. NO. CC04 0025 (19)	SHEET NO. 8	TOTAL SHEETS
NO REVISIONS	REVISED 8-17-87	VOID					

INDEX	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		BRIDGE STRUCTURE NO.		PROJECT TOTALS		DIFF. + / -	% PLAN						
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.								
1 96	613	WIRING	L.S.	0.9	0.9	0.1	0.1	1	1	0	100						
1 97	613	LUMINAIRE HIGH PRESSURE SODIUM (47,000 LUMEN)	EACH	59	58			59	58	-1	98.3						
1 98	613	LUMINAIRE HIGH PRESSURE SODIUM (WALL TYPE) (12,000 LUMEN)	EACH	2	2			2	2	0	100						
1 99	613	RECESSED LIGHT	EACH			30	30	30	30	0	100						
1 100	613	LIGHT STANDARD METAL (40 FOOT)	EACH	55	54			55	54	-1	98.2						
1 101	613	CONCRETE FOUNDATION PAD	EACH	55	54			55	54	-1	98.2						
1 102-104	614	FLAGGING	HOUR	5000	5392.5			5000	5392.5	+392.5	107.8						
1 105-107A	614	TRAFFIC CONTROL SUPERVISOR	DAY	250	277			250	277	+27	110.8						
1 108	614	UNIFORMED TRAFFIC CONTROL	HOUR	200	0			200	0	-200	0						
1 109	614	SIGN PANEL (CLASS I)	SQ. FT.	306	307			306	307	+1	100.3						
1 110	614	SIGN PANEL (CLASS II)	SQ. FT.	434	434			434	434	0	100						
1 111	614	SIGN PANEL (CLASS III) MCR I LINE #15	SQ. FT.	3332	3208			3332	3208	-124	96.3						
1 111A	614	SIGN PANEL (CLASS III) INSTALL ONLY MCR I LINE #14	SQ. FT.	0	124			0	124	+124							
1 112	614	TIMBER SIGN POST 4x4 INCH	LIN. FT.	201	201			201	201	0	100						
1 113	614	TIMBER SIGN POST 6x6 INCH	LIN. FT.	596	613			596	613	+17	102.9						
1 114	614	STEEL SIGN POST (W6x15)	LIN. FT.	35	35			35	35	0	100						
1 115	614	STEEL SIGN POST (W8x18)	LIN. FT.	72	72			72	72	0	100						
1 116	614	SIGN MODIFICATION MCR I LINE #6	L.S.	0	1			0	1	+1							
1 116	614	STEEL SIGN POST (W10x22)	LIN. FT.	46	46			46	46	0	100						
1 117	614	CONCRETE FOOTING (TYPE 2)	EACH	2	2			2	2	0	100						
1 118	614	CONCRETE FOOTING (TYPE 3)	EACH	4	4			4	4	0	100						
1 119	614	CONCRETE FOOTING (TYPE 5)	EACH	2	2			2	2	0	100						
1 120	614	CONCRETE FOOTING VI (SPREAD)	EACH	3	3			3	3	0	100						
1 121	614	CONCRETE FOOTING I-S (SPREAD)	EACH	4	0			4	0	-4	0						
1 122	614	CONCRETE FOOTING II-S (SPREAD)	EACH	2	6			2	6	+4	300						
1 123	614	CONCRETE FOOTING III-S (SPREAD) MCR I LINE #3	EACH	10	8			10	8	-2	80						
1 124	614	CONCRETE FOOTING IV SPECIAL MCR I LINE #4	EACH	0	2			0	2	+2							
1 125	614	MODIFICATION OF SIGN LEGEND	L.S.	1	1			1	1	0	100						
1 126	614	SIGN BRIDGE STRUCTURE (60 TO LESS THAN 65 FOOT FRAME)	EACH	1	1			1	1	0	100						
1 127	614	SIGN BRIDGE STRUCTURE (65 TO LESS THAN 70 FOOT FRAME)	EACH	2	2			2	2	0	100						



# SUMMARY OF APPROXIMATE QUANTITIES

AS CONSTRUCTED		
NO REVISIONS <input type="checkbox"/>	REVISED <input checked="" type="checkbox"/> 8-17-87	VOID <input type="checkbox"/>

FEDERAL ROAD REGION NO. VIII	DIVISION COLORADO	PROJ. NO. CCO4-0025(19)	SHEET NO. 9	TOTAL SHEETS
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INDEX	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		BRIDGE STRUCTURE NO.		PROJECT TOTALS		DIFF. +/-	% PLAN					
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.							
1 128	614	SIGN BRIDGE STRUCTURE (75 TO LESS THAN 80 FOOT FRAME)	EACH	3	3			3	3	0	100					
1 129	614	SIGN BRIDGE STRUCTURE (80 TO LESS THAN 85 FOOT FRAME)	EACH	1	1			1	1	0	100					
1 130	614	BALANCED BUTTERFLY STRUCTURE	EACH	2	2			2	2	0	100					
1 131	614	CANTILEVER STRUCTURE (20 TO LESS THAN 25 FOOT FRAME)	EACH	1	1			1	1	0	100					
1 132	614	CANTILEVER STRUCTURE (25 TO LESS THAN 30 FOOT FRAME)	EACH	2	2			2	2	0	100					
1 133	614	PEDESTRIAN SIGNAL FACE (18)	EACH	8	6			8	6	-2	75					
1 134	614	TRAFFIC SIGNAL FACE (12-12-12)	EACH	20	10			20	10	-10	50					
1 135	614	TRAFFIC SIGNAL FACE (12-12-12-12)	EACH	1	0			1	0	-1	0					
1 136	614	TRAFFIC SIGNAL CONTROLLER CABINET	EACH	1	1			1	1	0	100					
1 137	614	LOOP DETECTOR WIRE	LIN. FT.	6200	6,444			6200	6,444	+244	103.9					
1 138	614	TRAFFIC SIGNAL VEHICLE DETECTOR AMPLIFIER (LOOP TYPE)	EACH	8	8			8	8	0	100					
1 139	614	FLASHING BEACON (PORTABLE)	EACH	8	4			8	4	-4	50					
1 140	614	BARRICADE (TYPE 3F-D)	EACH	1	1			1	1	0	100					
1 141	614	BARRICADE (TYPE 3M-B)	EACH	4	4			4	4	0	100					
1 142	614	BARRICADE (TYPE 3M-C)	EACH	4	4			4	4	0	100					
1 143	614	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EACH	5	2			5	2	-3	40					
1 144	614	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	EACH	54	57			54	57	+3	105.6					
1 145	614	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE C)	EACH	20	30			20	30	+10	150					
1 146	614	VERTICAL PANEL	EACH	250	275			250	275	+25	110					
1 147	614	VERTICAL PANEL (WITH LIGHT) (FLASHING)	EACH	25	25			25	25	0	100					
1 148	614	ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL (C TYPE)	EACH	4	2			4	2	-2	50					
1 149	614	DRUM CHANNELIZING DEVICE	EACH	50	35			50	35	+15	130					
1 150	614	TRAFFIC CONE	EACH	200	150			200	150	-50	75					
1 151	614	TRAFFIC SIGNAL-LIGHT SPAN WIRE POLE (12 INCH)	EACH	4	4			4	4	0	100					
1 152	614	TRAFFIC SIGNAL CONTROLLER (SOLID STATE) (FULL ACTUATED) (8 PHASE)	EACH	1	1			1	1	0	100					
1 153	618	PRESTRESSING STEEL WIRE OR STRAND	LB.			54,950	54,950	54,950	54,950	0	100					
1 154	619	12 INCH WELDED STEEL PIPE	LIN. FT.	160	160			160	160	0	100					

# SUMMARY OF APPROXIMATE QUANTITIES

AS CONSTRUCTED		
NO REVISIONS <input type="checkbox"/>	REVISED <input checked="" type="checkbox"/> B-17-87	VOID <input type="checkbox"/>

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC04-0025(19)	10	

INDEX	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		BRIDGE STRUCTURE NO.		PROJECT TOTALS		DIFF. +/-	% PLAN								
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.										
1 155	619	6 INCH BLACK STEEL PIPE	LIN. FT.					255	255			255	255	0	100				
1 156	619	4 INCH PLASTIC PIPE	LIN. FT.	376	376							376	376	0	100				
1 157	620	FIELD OFFICE (CLASS 2)	EACH	1	0							1	0	-1	0				
1 158	620	FIELD LABORATORY (CLASS 2)	EACH	1	1							1	1	0	100				
1 159	620	SANITARY FACILITY	EACH	2	1							2	1	-1	50				
1 160	626	MOBILIZATION	L.S.	.9	.9			.1	.1			1	1	0	100				
1 161	627	EPOXY PAVEMENT MARKING	SQ. FT.	29120	25129							29120	25129	-3991	86.3				
1 162	627	PREFORMED PLASTIC PAVEMENT MARKING (60 MILS.)	SQ. FT.	429	289.5							429	289.5	-139.5	67.5				
<u>FORCE ACCOUNT</u>																			
	F/A01	MINOR CONTRACT REVISIONS	F.A.	1	1							1	1						
	F/A02	TEMPORARY EROSION CONTROL	F.A.	1	1							1	1						
	F/A03	FURNISH & INSTALL ELECTRICAL SERVICE CONNECTIONS TO SIGNALS & SIGNS	F.A.	1	1							1	1						
	F/A01	PROVIDE LABOR & EQUIP TO INSTALL ELEC POWER TO RELOCATED FLASHING YELLOW BEACONS - LINE # 5	F.A.	0	1							0	1						
	F/A01	ESTIMATE INCREASE COST - LINE # 16	F.A.	0	1							0	1						

# STRUCTURE QUANTITIES

AS CONSTRUCTED			
NO REVISIONS	REVISED	8-17-87	VOID
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.
VIII	COLORADO	CC 04-0025-19	11
TOTAL SHEETS			

INDEX BOOK PAGE SHEET	LOCATION	UNCLASSIFIED EXCAVATION CUBIC YARD			STRUCTURE EXCAVATION CUBIC YARD	STRUCTURE BACKFILL CUBIC YARD	INLET TYPE C EACH	INLET TYPE R EACH					MANHOLE EACH			REINFORCING STEEL LB.	CONCRETE (WALL) CU.YD.	RCP LINEAR FEET				RCPS LINEAR FEET		RIPRAP CU.YD.		"H" OVER CULV. FT.	END SECTION E A C H				MISCELLANEOUS		
		EXCAV.	DITCH	EMB.				CL.2	H=5'	H=5'	H=10'	H=5'	H=5'	H=10'	H=15'			BOX BASE H=10'	SLAB BASE H=5'	15"	24"	30"	36"	15"	36"		9"	12"	15"	24"		30"	36"
	<u>BRIARGATE PARKWAY</u>																																
	527+50		1		10	18					1					88						1			7.8				1	3 S.Y. PLASTIC FILTER CLOTH			
	539+15			613	1056	331	1						1						460						39.0					1.3 CU.YD. CONCRETE S.&D. PAVE. (4" THICK)			
	547+90				99	79					1									212 210					2.3								
	550+00		1		39	32					1					86						1			2.5		1			3 S.Y. PLASTIC FILTER CLOTH			
	554+80		10	7	105	95													168			10			8.5		2			19 S.Y. PLASTIC FILTER CLOTH			
	560+25		10	356	664	230					1								320			10			11.0		1			19 S.Y. PLASTIC FILTER CLOTH			
	<del>562+38</del>																													104 S.Y. CONCRETE SIDEWALK (COLORED)			
	<u>S.W. RAMP</u>																																
	315+00		3	20	68	41													78			3			6.2		2			9 S.Y. PLASTIC FILTER CLOTH			
	323+80, 60' RT. To 325+43, 27.5' RT.				28	43	1												154						4.0					1.3 CU.YD. CONCRETE S.&D. PAVE. (4" THICK)			
	325+43		7		32	52							1						122			7			11.0		1			19 S.Y. PLASTIC FILTER CLOTH			
	325+90 RT.				5	9					1								46						4.0								





# GENERAL NOTES

For preliminary plan quantities of pavement structure materials, the following rates of application were used:

Tack Coat Emul. Asph. (Slow setting) @ 0.05 Gal./Sq.Yd. (Undiluted).

Bituminous Pavement Grade E @ 110 Lbs. per. Sq. Yd./inch.

Rejuvenating Agent applied as Seal Coat at Time of Construction @ 0.05 Gal./Sq. Yd.

Rates of application shall be as determined by the Engineer at the time of application.

Water shall be used as a dust palliative where required. Location shall be as ordered. It is estimated that 5,000 M gallons will be required.

The following shall be furnished with each bituminous pover.

- 1. A ski type device at least 30 feet in length.
- 2. Short ski or shoe.

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 gore areas will be patterned concrete from the point of the gore back to a point where the dimension is 15' edge of pavement to edge of pavement.

Salvagable material shall be delivered to a disposal site approximately two (2) miles from the Project site, as directed by the Engineer.

It is estimated that old road is to be obliterated at the following locations:

LT. Of SH 83 STA. 807+00 To 816+48±

The cost for obliteration of old road will be included in bid price for embankment material (CIP).

Refer to Sheet 17 for seeding, mulching and fertilizer notes.

Depth of Moisture-Density control for this project shall be as follows:

- Full depth of all embankments;
- Bases of cuts - 6 inches.
- Bases of fills - 6 inches

Excavation required for compaction of bases of cuts and fills will be considered as subsidiary to Embankment (CIP) operation and will not be paid for separately.

Type of compaction for this project will be AASHTO T99.

Concrete pipe joint fasteners as shown on M Standard are required on; all concrete pipe culverts on this project.

The minimum thickness of topsoil shall be 4 inches. It is estimated that 31,542 Cu.Yds. will be required based on average thickness, and will be obtained from Project Site within roadway prism.

The top layer of asphalt pavements shall be compacted and finished by using both pneumatic and steel wheel rollers as directed by the Engineer.

For estimation of sales tax note that the Project is located outside Colorado Springs City Limits.

Where curb and gutter symbol is shown on plans, roadway dimensions shown are to outside edge of gutter pan.

## TABULATION OF ROADWAY EXCAVATION & EMBANKMENT FOR INFORMATION ONLY

ROADWAY SEGMENT	EXCAV.	EMBANK.
	CU.YD.	CU.YD.
<b>WEST SIDE OF I-25</b>		
I-25 SBL	3,055	3,694
BRIARGATE PARKWAY	241	135,547
SW LOOP RAMP	63,708	9,266
SW RAMP	27,149	29,172
NW CONTOUR GRADING AREA	56,755	5,196
SW CONTOUR GRADING AREA	3,729	220
SW RAMP BORROW AREA	7,463	585
SUBTOTAL-WEST	229,600	183,680
<b>EAST SIDE OF I-25</b>		
I-25 NBL	5,754	9,031
HWY 83	75,165	38,252
SPRING CREST ROAD	344	12
BRIARGATE PARKWAY (E.OF BRIDGE)	19,031	82,471
NE RAMP	9,921	2,436
SE RAMP	78,972	241
SE RAMP CONTOUR GRADING AREA	10,802	0
SUBTOTAL-EAST	199,989	132,843
TOTALS	429,589	316,523

NOTE: SOILS TYPE NO. III, IV & V, REPRESENTED IN THE FOLLOWING SAMPLES CONTAIN ORGANICS AND OTHER DELETERIOUS MATERIALS, AND SHALL NOT BE PLACED IN EMBANKMENTS CLOSER THAN THREE (3) FEET TO THE FINISHED SUBGRADE. WHERE THE FINISHED GRADE LINE IS LESS THAN 3' ABOVE A LAYER OF THIS MATERIAL, THE MATERIAL SHALL BE EXCAVATED AND THE EXCAVATED AREA BACKFILLED WITH TYPE I OR TYPE II SOIL. CROSS HAULING SHALL BE USED TO ACHIEVE THIS RESULT AND THE COST THEREOF SHALL BE INCLUDED IN THE WORK

### GENERAL SOIL DESCRIPTIONS

	TYPE I DARK BROWN, SILTY TO GRAVELLY SAND, FINE TO COARSE GRAINED (SOMETIMES AS POSSIBLE FILL, SOMETIMES AS FILL). "R" VALUE = 51
	TYPE II LIGHT BROWN TO TAN TO MEDIUM BROWN, SILTY TO GRAVELLY SAND, FINE TO COARSE GRAINED. "R" VALUE = 73
	TYPE III BROWN TO DARK BROWN TO RED BROWN, ORGANIC, SILTY AND SANDY CLAY, SOME GRAVEL.
	TYPE IV RED TO BROWN, CLAYEY AND SILTY SAND FILL.
	TYPE V GRAY TO RED, SILTY CLAY, WEATHERED CLAYSTONE.

AS CONSTRUCTED		
NO REVISIONS	REVISED 8-17-87	VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	14	

## SUMMARY OF EARTHWORK

INDEX	West of I 25 CU. YDS	East of I 25 CU. YDS	Project Totals CU. YDS	As Constructed
<b>UNCLASSIFIED EXCAVATION (INFO ONLY)</b>				
ROADWAY (FROM X-SECTIONS)	229,600	199,989	429,589	
STRUCTURE QUANTITIES AS EMBANK	25	2,137	2,162	
STRUCTURE QUANTITIES AS EXCAV.	0	0	0	
STRUCTURE QUANTITIES AS DITCH	19	36	55	
EST. FOR CUT SLOPE TREATMENT	105	325	430	
TOTAL	229,749	202,487	432,236	
<b>EMBANKMENT MATERIAL (COMPLETE IN PLACE)</b>				
ROADWAY	183,680	132,843	316,523	316,523
STRUCTURE QUANTITIES AS EMB.	20	1,710	1,730	1,730
ESTIMATED FOR EXTRA FILL IN MEDIAN		3,000	3,000	3,000
ESTIMATED TO REPLACE TOPSOIL		33,935	33,935	33,935
TOTAL - FOR PAY QUANTITY	183,700	174,788	358,488	358,488
<b>COMPACTION (AASHTO T99) (INFO ONLY)</b>				
<b>(MOISTURE &amp; DENSITY CONTROL)</b>				
EMBANKMENT (NET)	183,680	132,843	316,523	
BASE OF CUTS & FILLS	10,020	2,324	12,344	
STRUCTURE QUANTITIES AS EMB.	20	1,710	1,730	
TOTAL	193,720	157,677	351,397	
<b>WETTING QUANTITIES (INFO ONLY)</b>				
<b>COMPACTION (CU. YDS x .040)</b>				
	7,749	6,319	14,068	
TOTAL			14,068	
<b>ROADWAY QUANTITIES BALANCE (FOR INFORMATION ONLY)</b>				
<b>EXCAVATION UNCLASSIFIED (FROM X-SECTIONS)</b>				
	229,600	199,989	429,589	
TOTAL	229,600	199,989	429,589	
<b>EMBANKMENT NET (ROADWAY FROM X-SECTIONS)</b>				
	183,680	132,843	316,523	
TOTAL	183,680	132,843	316,523	
<b>EMBANKMENT X FACTOR (1.25) (ROADWAY FROM X-SECTION)</b>				
	229,600	166,054	395,654	
TOTAL	229,600	166,054	395,654	

I 25/BRIARGATE PARKWAY INTERCHANGE				
EARTHWORK QUANTITIES & GENERAL NOTES				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	

# TABULATION SHEET

AS CONSTRUCTED

NO REVISIONS  REVISED  8-17-87 VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	15	

## SURFACING QUANTITIES

STATION TO STATION	*HOT BITUMINOUS PAVEMENT (GR. E) (HAUL & ASPHALT)				EMULSIFIED ASPHALT TACK COAT (GALLONS)	ASPHALT REJUVINATING AGENT (GALLONS)
	AREA OF PAVEMENT (SQ. YDS.)	BOTTOM LAYER ▲ (TONS)	MIDDLE LAYER ▲ (TONS)	TOP LAYER (TONS)		
<b>BRIARGATE PARKWAY</b>						
527+46.66 TO 536+25.78 (WEST SIDE OF BRIDGE)	5470	903		752	274	274
538+47.78 TO 554+00	10,378	1714		1428	519	519
554+00 TO 523+35.23 (INTERSECTION)	13,089	2160		1800	654	654
<b>STATE HIGHWAY 83</b>						
790+93.17 TO 799+00 (SOUTH TAPER)	6889	1166	758	663	688	344
799+00 TO 813+66.85 (INTERSECTION)	15,003	2529	1650	1444	1500	750
813+66.85 TO 816+07.23	1817	309	200	175	182	91
816+07.23 TO 819+74.79 (SPRING CREST INTERSECTION)	2916	495	321	281	292	146
819+74.79 TO 831+04.76 (TAPER)	8120	1381	893	782	812	406
<b>RAMPS</b>						
<b>SW RAMP</b>						
1322+81 TO 1348+55.15 (I-25 WIDENING)	2431	425		267	122	122
298+72 TO 310+50 (TAPER)	3143	529		346	157	157
310+50 TO 327+47 (RAMP)	6574	1116		723	329	329
<b>SE RAMP</b>						
1322+21 TO 1377+66 (I-25 WIDENING)	6719	1159		739	336	336
101+55 TO 105+65 (TAPER)	1108	187		122	55	55
105+65 TO 115+25 (RAMP)	3627	616		399	181	181
<b>NE RAMP</b>						
223+45 TO 226+00 (TAPER)	616	104		68	91	91
226+00 TO 237+00	3056	524		336	153	153
1386+80 TO 1399+80 (I-25 WIDENING)	1157	203		127	58	58
<b>SW LOOP</b>						
1373+00 TO 1395+68 (I-25 WIDENING)	1894	333		208	95	95
410+00 TO 411+79.64 (TAPER)	25	6		3	1	1
411+79.64 TO 421+47.08 (LOOP)	3136	535		345	157	157
ALLOWANCE FOR IRREGULARITIES		817				
▲ INCLUDES ADDITIONAL WIDTH BEYOND SHOULDER LINE						
<b>SUB-TOTAL</b>						
		17,211	3822	11008	6656	4919
<b>PROJECT TOTALS</b>						
			32,847	32,091	6656	4919

\* CONTRACTORS SOURCE

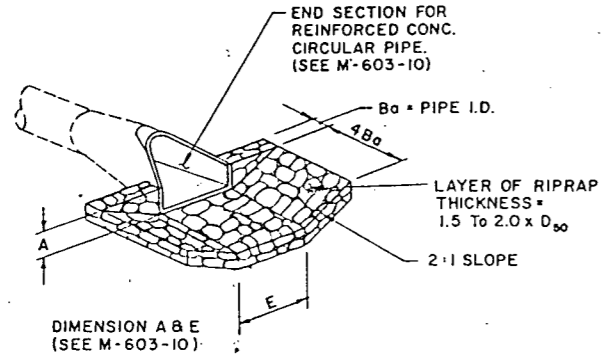
Stabilization Data  
 Regional Factor = 1.5  
 Serviceability Index = 2.5  
 HBP Strength Coefficient = .44

	<u>SH 83</u>	<u>Briargate Parkway</u>	<u>Ramps</u>	<u>I 25</u>
18K EDLA	330	106	174	174
"R" Value	50	50	50	68

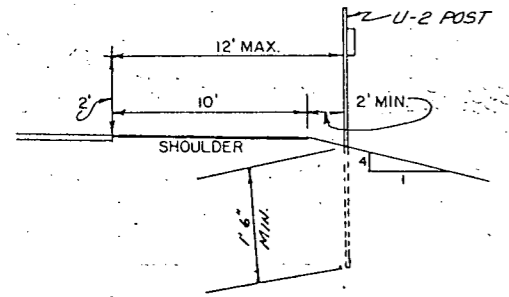
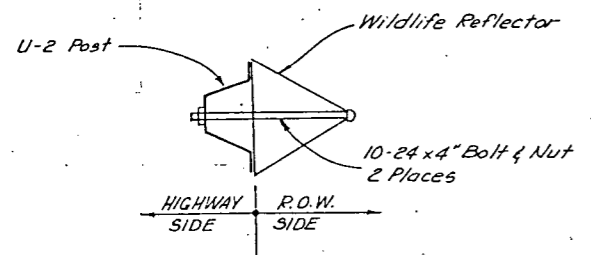
4278

I 25/BRIARGATE PARKWAY INTERCHANGE  
SURFACING QUANTITIES

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
1-21-86	URS 5060	DRAWN BY	OF SHEETS	



**CULVERT OUTLET EROSION PROTECTION**  
SEE STRUCTURE QUANTITIES FOR D50 SIZE.



TYPICAL INSTALLATION WILDLIFE REFLECTOR

- (1.) Sta. 230 to 240 Rt. @ 40' Spacing
- (2.) Sta. 240 to 250+56 Rt. @ 66' Spacing
- (3.) Sta. 1383+00 to 1394+88 Lt. @ 66' Spacing

TABULATION OF DELINEATORS & WILDLIFE REFLECTORS

LOCATION	TYPE I (CRYSTAL)				WILDLIFE REFLECTORS EACH
	TYPE I (CRYSTAL) EACH	TYPE II (CRYSTAL) EACH	TYPE I (YELLOW) EACH	TYPE III (3 YELLOW HAZARD MARKER) EACH	
I 25 - N.B.					
BRIARGATE PKWY.	66	4	-	4	
S.H. 83	56	5	-	4	
S.W. LOOP RAMP	22	11	21	3	
N.W. RAMP	1	20	20	1	
S.E. RAMP	1	8	20	2	
N.E. RAMP	21	14	16	-	26 (1) 17 (2)
I 25 - S.B.					19 (3)
<b>PROJECT TOTALS</b>	<b>167</b>	<b>62</b>	<b>77</b>	<b>14</b>	<b>62</b>

- \*\* metal guard rail galvanized
- ▲ All metal guard rail shall be corrosion resistant per std. Plan M-606-1.
- \* For Information Only - Included in specified guard rail length.
- + Transition - See Revised Standard Plan No. M 606-12 Sheet 2 of 2. Use transition to pier 2 ft. wide or less. Additional material required will be included in the cost of the guard rail.
- ⊙ Around sign post

TABULATION OF FENCING

STATION — STATION	SIDE	REMOVAL OF FENCE	FENCE COMBINATION WIRE WITH METAL POST	REMARKS
		LIN. FEET	LIN. FEET	
<u>I 25</u> 1361+00 - 1389+00	LT.	2,300		
<u>S.H. 83</u> <del>820+00 - 825+00</del> 803+15.6 - 817+10.6	LT. RT.	500 1,395		
803+15.6 - RT. Sta. 563+90.5 (On Briargate Pkwy)	RT.		215	(Requires 2 End Posts; 1 Corner Post)
<b>PROJECT TOTALS</b>		<b>4,195</b> 3480	<b>-215-</b>	<b>-2 End Posts, 1 Corner Post-</b>

TABULATION OF CURB AND GUTTER

STATION — STATION	CURB AND GUTTER TYPE 2 (SECT. I-B)
	LIN. FT.
<u>BRIARGATE PARKWAY</u>	
527+38.65 - 536+25.78 (L & R)	1775
538+47.78 - 561+12.15 (L & R)	4529
419+92.50 - 421+47.07 (S.W. LOOP RAMP) (L)	315
<u>STATE HIGHWAY 83</u>	
794+50 - 805+10 (L & R)	2120
806+45 - 817+00 (L & R)	2110
817+89.23 - 825+50 (L & R)	1522
<u>RIGHT TURN ISLANDS @ BRIARGATE &amp; SH 83</u>	
NW	91
SW	103
SE	155
NE	97
<b>PROJECT TOTAL</b>	<b>12,817</b> 13,020

TABULATION OF GUARD RAIL

STATION — STATION	SIDE	TYPE 3			TYPE 4			
		6'-3" POST SPACING	END ANCH. TYPE 3D	END ANCH. TYPE 3E	REMOVAL	GUARD RAIL	10' TRANS. SECTION	12' TRANS. SECTION
		LIN. FT.	EACH	EACH	LIN. FT.	LIN. FT.	EACH	EACH
<u>BRIARGATE PARKWAY</u>								
<del>534+44.8 - 536+34.8</del>								
534+91.8 - 535+77.8	LT.				80	82		1*
▲ 534+54.8 - 535+24.8	RT.	75		1				1*
<del>535+24.8 - 536+34.8</del>								
535+24.8 - 535+18.8	RT.				104	25		
<del>538+61.8 - 539+46.8</del>								
539+22 - 539+92	LT.				126	74		
▲ 539+96.8 - 540+71.8	LT.	75		1				1*
<del>538+61.8 - 539+46.8</del>								
533+38 - 539+81	RT.				27	42		1*
▲ 524+25 - 555+75	LT.	150		1				
<u>I 25</u>								
1274+35 - 1275+65	⊙							
1374+50 - 1375+88	⊙				130	130		1*
						138+8		
1375+88 - 1381+50.14	⊙					562		
1382+25.56 - 1382+97.56	⊙					72+		1*
**1324+75 ±								
**1312+75 - 1314+25	⊙ RT.			2				
**1308+75 - 1310+25	LT.	150		1				
**1341+75 - 1343+25	⊙ RT.	300		2				
**1346+75 - 1348+25	RT.	150		1				
**1369+25 - 1370+75	LT. & E	300		2				
**1375+09 - 1376+59	RT. & E	300		2				
<del>1428+25 - 1429+75</del>	LT.	150		1				
	LT.	150		1				
<b>PROJECT TOTAL</b>		<b>1350</b> 1650		<b>8</b> 10	<b>10</b> 14	<b>130</b>	<b>1309</b> 1125	<b>2*</b> 4*



**TABULATION OF REMOVAL OF ASPHALT MAT**

LOCATION		QUANTITY SQ. YD.
I 25		
STA. 1322+81 TO 1360+55	L.T.	210
STA. 1322+21 TO 1374+55	R.T.	291
STA. 1373+55 TO 1395+68	L.T.	124
STA. 1386+95 TO 1399+91	R.T.	72
S. H. 83		
STA. 790+93.17 TO 801+00		2,685
STA. 801+00 TO 805+81		1,282
STA. 805+81 TO 816+00		4,531
STA. 816+00 TO 831+04.76		6,243
<b>TOTAL</b>		<del>15,458</del> 15,086

NOTE: Removed asphalt mat becomes the property of the Contractor and must be hauled away from the Project.

**TABULATION OF SEEDING, MULCHING AND FERTILIZERS**

Soil preparation, seeding, fertilizing with commercial fertilizer and mulching will be required for approximately 52 acres on disturbed areas within the right-of-way limits that will not be surfaced. The native grass and wildflower seed mix shall be applied by drilling 1/4 inch deep at the rates shown. Mulch shall be fresh hay from the current crop and may be native hay, sudan grass, broomsedge hay, legume hay or similar hay. Fertilizer rates may be adjusted by the Engineer to meet field conditions and small areas may require hand crimping of hay as directed. Mulching (hay) shall be applied at a rate of 1-1/2 tons/acre. The following types and rates shall be used:

COMMON NAME	BOTANICAL NAME	PLS	LBS/AC
Sodar Streambank Wheatgrass	Agropyron Riperium	4	
Sideoates Grama	Boutelova Curtipendula	3	
Blue Grama	Boutelova Gracilis	2	
Annual Ryegrass	Lolium Multiflorum	4	
Proso Melet *	Panicum Milleaceum	5	
Kentucky Bluegrass	Poa Pratensis	1	
Wildflower Mix	See Table	1	
<b>TOTAL PLS/ACRE SEEDING</b>			<b>20</b>

\* For Spring Planting. For Fall Planting Substitute 7 LBS/AC (PLS) of Winter Wheat (Triticum Aestivum).

**WILDFLOWER MIX:**

COMMON NAME	BOTANICAL NAME	LBS	PLS
Ox-eyed Daisy	Crysanthemum Leucanthemum	1/2	
Lance-leaved Coreopsis	Coreopsis Lanceolata	1	
Pevennial Lupine	Lupinus Pevennis	1 1/2	

COMMERCIAL FERTILIZER 18-24-6	RATE: LBS/AC: 200
Available N	36
Available P	21
Available K	10

**PROJECT TOTALS:**

Seeding (Native)	52 ac. 79
Mulching	52 ac. 79
Fertilizer (Available N)	1872 lbs. (info only)
Fertilizer (Available P)	1092 lbs. (info only)
Fertilizer (Available K)	520 lbs. (info only)
Soil Preparation	52 ac. (info only)
Mulch Tackifier	6200 lbs. 7900

\* Includes quantities at disposal site.

**TABULATION OF MEDIAN COVER MATERIAL (PATTERNED CONCRETE) MEDIAN EDGING (PATTERNED CONCRETE) CONCRETE CURB RAMPS & CONCRETE SIDEWALKS**

LOCATION	MEDIAN COVER MATERIAL (PATTERNED CONCRETE) SQ. FT.	MEDIAN EDGING (PATTERNED CONCRETE) LIN. FT.	CONCRETE CURB RAMPS SQ. YD.	CONCRETE SIDEWALK SQ. YD.
<b>GORE AREAS</b>				
I 25/SE RAMP	500 450			
I 25/SW RAMP	250 840			
I 25/SW LOOP RAMP	250 240			
I 25/NE RAMP	410 375			
BRIARGATE/SE RAMP	300 495			
BRIARGATE/NE RAMP	175 548			
<b>BRIARGATE / S.H. 83 INTERSECTION</b>				
<b>ISLANDS</b>				
STA. 805+00	704		12	4
STA. 806+50	596		12	4
STA. 805+10	4,293 1065		12	11
STA. 806+60	372 337		12	5
<b>BRIARGATE</b>				
STA. 527+46 TO 561+10	18,392 17,064		2,150 3,354	
STA. 419+91 TO 421+47 (S.W. LOOP RAMP)	2,158 2,269			
<b>S.H. 83</b>				
STA. 794+50 TO 825+50	9,236 7,482		6,720 3,166	
<b>TOTALS</b>	<del>27,915</del> 36,036		9,870 4,520	48 24 31

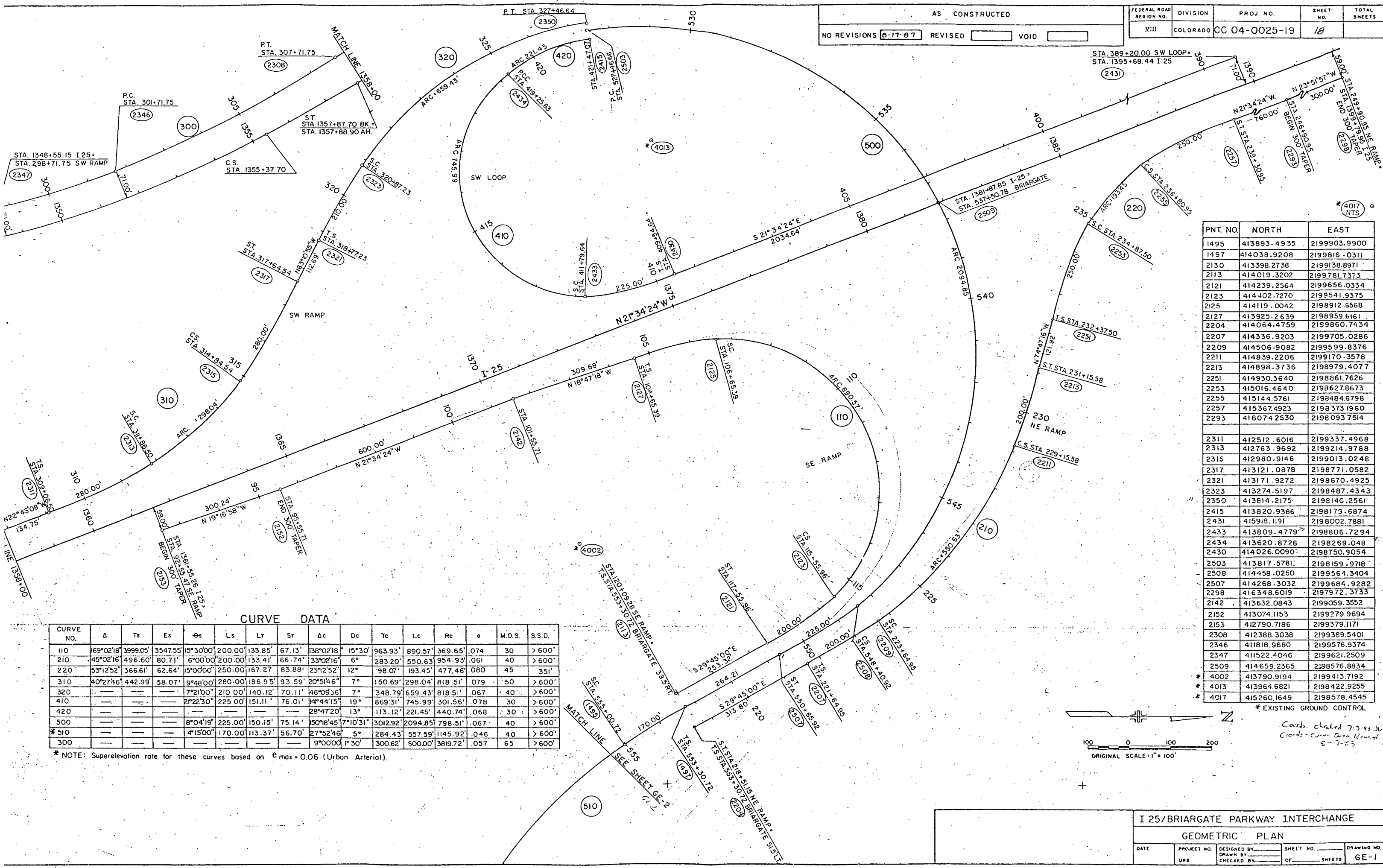
**I25/BRIARGATE PARKWAY INTERCHANGE**

**TABULATIONS**

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS		OF _____ SHEETS	

AS CONSTRUCTED  
 NO REVISIONS  0-17-87 REVISED  VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 04-0025-19	18	

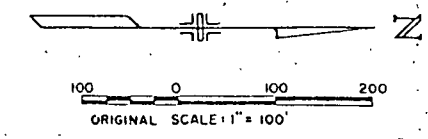


PNT. NO.	NORTH	EAST
1495	413893.4935	2199903.9900
1497	414038.9208	2199816.0311
2130	413398.2738	2199138.8971
2113	414019.3202	2199781.7373
2121	414239.2564	2199656.0334
2123	414402.7270	2199541.9375
2125	414119.0042	2198912.6568
2127	413925.2639	2198959.6161
2204	414064.4759	2198960.7434
2207	414336.9203	2199705.0286
2209	414506.9082	2199599.8376
2211	414839.2206	2199170.3578
2213	414898.3736	2198979.4077
2251	414930.3640	2198861.7626
2253	415016.4640	2198627.8673
2255	415144.5761	2198484.6798
2257	415367.4923	2198373.1960
2293	416074.2530	2198093.7514
2311	412512.6016	2199337.4968
2313	412763.9692	2199214.9788
2315	412980.9146	2199013.0248
2317	413121.0878	2198771.0582
2321	413171.9272	2198670.4925
2323	413274.5197	2198487.4343
2350	413814.2175	2198140.2561
2415	413820.9386	2198179.6874
2431	415918.1191	2198002.7881
2433	413809.4779	2198806.7294
2434	413620.8726	2198269.048
2430	414026.0090	2198750.9054
2503	413817.5781	2198159.9718
2508	414458.0250	2199564.3404
2507	414268.3032	2199684.9282
2298	416348.6019	2197972.3733
2142	413632.0843	2199059.3552
2152	413074.1153	2199279.9694
2153	412790.7186	2199379.1171
2308	412388.3038	2199369.5401
2346	411818.9680	2199576.9374
2347	411522.4046	2199621.2509
2509	414659.2365	2198576.8834
* 4002	413790.9194	2199413.7192
* 4013	413964.6821	2198422.9255
* 4017	415260.1649	2198578.4545

CURVE DATA

CURVE NO.	Δ	Ts	Es	φs	Ls	Lt	St	Δc	Dc	Tc	Lc	Rc	e	M.D.S.	S.S.D.
110	69°02'18"	3999.05'	3547.55'	15°30'00"	200.00'	133.85'	67.13'	138°02'18"	15°30'	963.93'	890.57'	369.65'	.074	30	>600'
210	45°02'16"	496.60'	80.71'	6°00'00"	200.00'	133.41'	66.74'	33°02'16"	6°	283.20'	550.63'	954.93'	.061	40	>600'
220	53°12'52"	366.61'	62.64'	15°00'00"	250.00'	167.27'	83.88'	23°12'52"	12°	98.07'	193.45'	477.46'	.080	45	351'
310	40°27'46"	442.99'	58.07'	9°48'00"	280.00'	186.95'	93.59'	20°51'46"	7°	150.69'	298.04'	818.51'	.079	50	>600'
320	---	---	---	7°21'00"	210.00'	140.12'	70.11'	46°09'36"	7°	348.79'	659.43'	818.51'	.067	40	>600'
410	---	---	---	2°22'30"	225.00'	151.11'	76.01'	14°44'15"	19°	869.31'	745.99'	301.56'	.078	30	>600'
420	---	---	---	---	---	---	---	28°47'20"	13°	113.12'	221.45'	440.74'	.068	30	>600'
500	---	---	---	8°04'19"	225.00'	150.15'	75.14'	150°18'45"	7°10'31"	3012.92'	2094.85'	798.51'	.067	40	>600'
* 510	---	---	---	4°15'00"	170.00'	113.37'	56.70'	27°52'46"	5°	284.43'	557.59'	1145.92'	.046	40	>600'
300	---	---	---	---	---	---	---	9°00'00"	1°30'	300.62'	500.00'	3819.72'	.057	65	>600'

\* NOTE: Superelevation rate for these curves based on e<sub>max</sub> = 0.06 (Urban Arterial).



\* EXISTING GROUND CONTROL  
 Coords. checked 7-3-85  
 Coords. Curve Data Manual  
 8-7-85

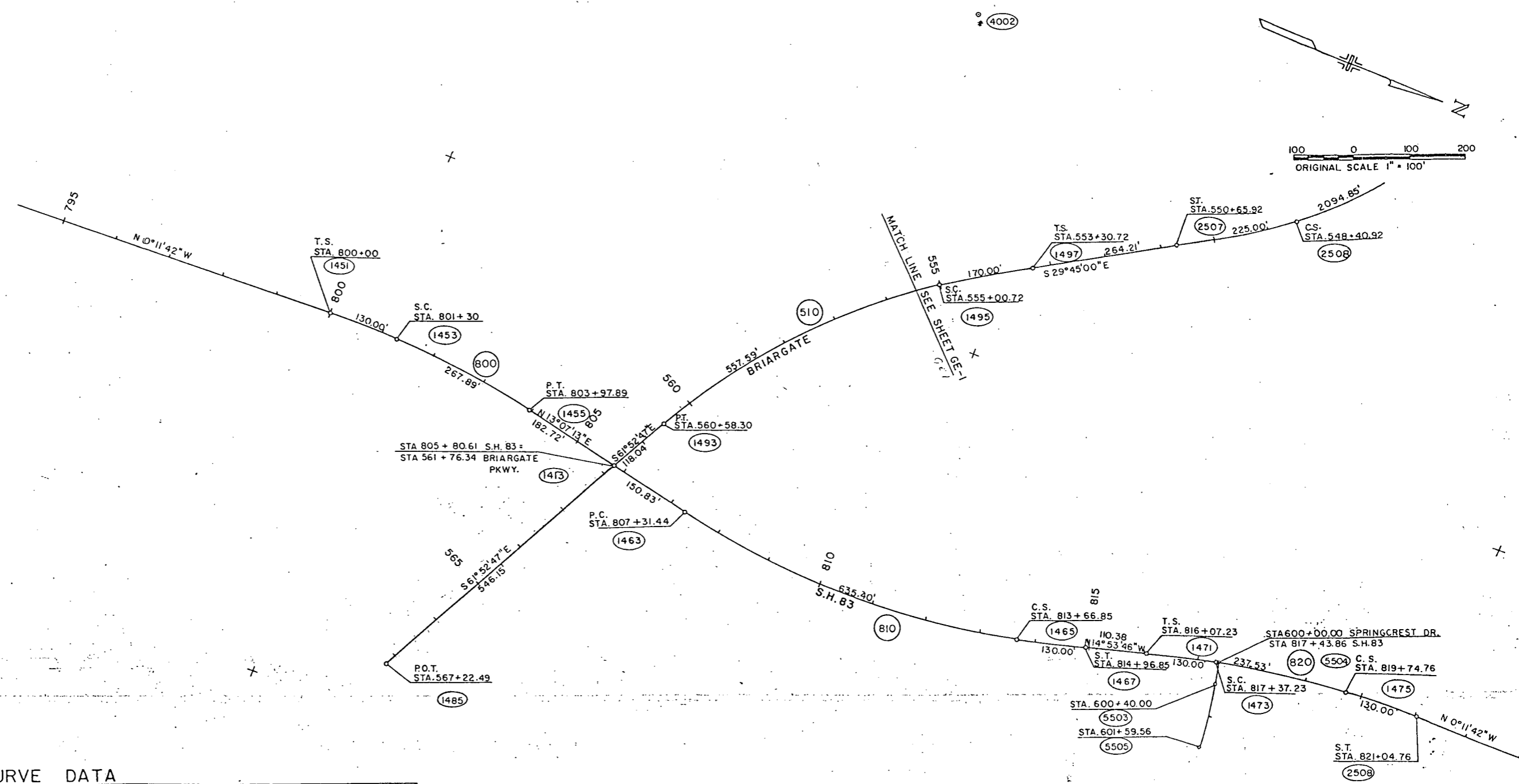
I 25/BRIARGATE PARKWAY INTERCHANGE				
GEOMETRIC PLAN				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
URS		CHECKED BY	OF SHEETS	GE-1
PREPARED BY URS COMPANY - DENVER				

AS CONSTRUCTED  
 NO REVISIONS  B-17-B7 REVISED  VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	19	

NO.	NORTH	EAST
1413	413468.0000	2200418.0000
1451	412895.0183	2200388.8665
1453	413024.9974	2200340.3902
1455	413290.0413	2200376.5209
1463	413614.8927	2200452.2382
1465	414245.0833	2200456.7707
1467	414371.1941	2200425.2591
1471	414477.8687	2200396.8828
1473	414603.9794	2200365.3708
1475	414839.1820	2200334.2153
1477	414969.1478	2200331.8068
1483	413011.1307	2201706.7644
1485	413210.5869	2200899.6791
1493	413523.6341	2200313.8958
1495	413893.4935	2199903.9900
1497	414038.9208	2199816.0311
2507	414268.3032	2199684.9282
2508	414458.0250	2199564.3404
SPRINGCREST ROAD		
5503	414618.7934	2200403.0963
5504	414610.4556	2200363.9749
5505	414631.3000	2200521.7783
4002	413790.9194	2199413.7192
4003	413106.6237	2199535.7280
4004	412268.6362	2199842.7096

\*EXISTING GROUND CONTROL



CURVE DATA

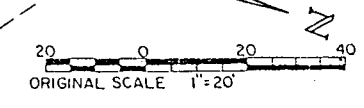
CURVE NO.	Δs	Ts	Es	Os	Ls	Lt	St	Δc	Dc	Tc	Lc	Rc	e	M.D.S.	S.S.D.
* 510	—	—	—	4°15'00"	170.00'	113.37'	56.70	27°52'46"	5"	284.43	557.59	1145.92	.046	40	> 600
* 800	—	—	—	2°36'00"	130.00'	86.68'	43.34	10°42'56"	4"	134.34	267.89	1432.39	.041	40	> 600
* 810	—	—	—	2°36'00"	130.00'	86.68'	43.34	25°24'58"	4"	323.01	635.40	1432.39	.041	40	> 600
* 820	14°42'04"	249.84'	12.36'	2°36'00"	130.00'	86.68'	43.34	9°30'00"	4"	119.04'	237.53'	1432.39	.041	40	> 600

\* NOTE: Superelevation rate for these curves based on e<sub>max</sub> = 0.06 (Urban, Arterial).

I 25/BRIARGATE PARKWAY INTERCHANGE  
 GEOMETRIC PLAN

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
			OF SHEETS	GE-2

PREPARED BY: URS COMPANY, DENVER



POINT NO.	RADIUS	RADIUS POINT STA. & LOCATION	COORDINATES	
			NORTH	EAST
30	3'	806+72.81 - 47.50' LT.	413,568.5740	2,200,392.6689
40	3'	561+15.13 - 56.50' LT.	413,546.6800	2,200,390.6462
50	1'	560+84.75 - 54.50' LT.	413,559.2350	2,200,362.9097
70	2.5'	561+09.66 - 12.00' LT.	413,510.0159	2,200,364.8387
230	3'	562+38.83 - 59.50' LT.	413,491.0221	2,200,501.1599
240	3'	562+12.45 - 56.50' LT.	413,500.8125	2,200,476.4749
250	1'	806+69.79 - 47.50' RT.	413,544.0644	2,200,484.5025
270	2.5'	806+51.42 - 12.00' RT.	413,534.2345	2,200,445.7598
330	3'	804+82.32 - 47.50' RT.	413,361.4904	2,200,441.9477
340	3'	562+37.55 - 56.50' RT.	413,389.3200	2,200,445.3539
350	1'	562+94.70 - 54.50' RT.	413,364.1465	2,200,496.7025
430	3'	560+97.56 - 59.50' RT.	413,452.6568	2,200,320.4710
140	3'	561+40.24 - 56.50' RT.	413,435.1875	2,200,359.5252
550	1'	804+79.81 - 47.50' LT.	413,380.6070	2,200,348.8570
470	2.5'	805+09.80 - 12.00' LT.	413,401.7655	2,200,390.2402

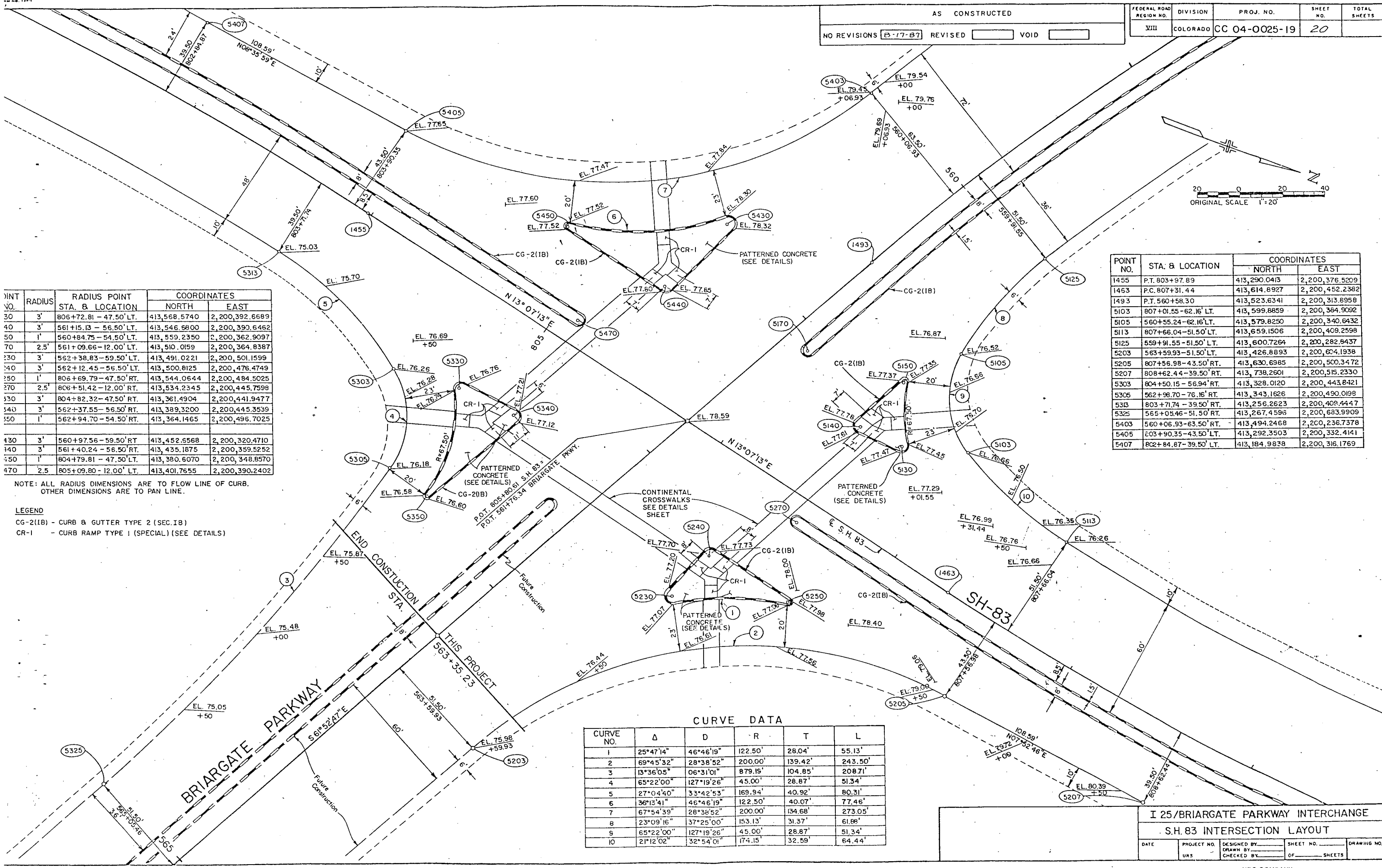
NOTE: ALL RADIUS DIMENSIONS ARE TO FLOW LINE OF CURB.  
OTHER DIMENSIONS ARE TO PAN LINE.

**LEGEND**  
CG-2(1B) - CURB & GUTTER TYPE 2 (SEC.1B)  
CR-1 - CURB RAMP TYPE 1 (SPECIAL) (SEE DETAILS)

POINT NO.	STA. & LOCATION	COORDINATES	
		NORTH	EAST
1455	P.T. 803+97.89	413,290.0413	2,200,376.5209
1463	P.C. 807+31.44	413,614.8927	2,200,452.2382
1493	P.T. 560+58.30	413,523.6341	2,200,313.8958
5103	807+01.55 - 62.16' LT.	413,599.8859	2,200,384.9092
5105	560+55.24 - 62.16' LT.	413,579.8250	2,200,340.6432
5113	807+66.04 - 51.50' LT.	413,659.1506	2,200,409.2598
5125	559+91.55 - 51.50' LT.	413,600.7264	2,200,282.8437
5203	563+59.93 - 51.50' LT.	413,426.8893	2,200,604.1938
5205	807+56.98 - 43.50' RT.	413,630.6985	2,200,500.3472
5207	808+62.44 - 39.50' RT.	413,738.2601	2,200,515.2330
5303	804+50.15 - 56.94' RT.	413,328.0120	2,200,443.8421
5305	562+96.70 - 76.16' RT.	413,343.1626	2,200,490.0198
5315	803+71.74 - 39.50' RT.	413,256.2623	2,200,408.4447
5325	565+05.46 - 51.50' RT.	413,267.4596	2,200,683.9909
5403	560+06.93 - 63.50' RT.	413,494.2468	2,200,236.7378
5405	803+90.35 - 43.50' LT.	413,292.3503	2,200,332.4141
5407	802+84.87 - 39.50' LT.	413,184.9838	2,200,316.1769

**CURVE DATA**

CURVE NO.	Δ	D	R	T	L
1	25°47'14"	46°46'19"	122.50'	28.04'	55.13'
2	69°45'32"	28°38'52"	200.00'	139.42'	243.50'
3	13°36'05"	06°31'01"	879.15'	104.85'	208.71'
4	65°22'00"	127°19'26"	45.00'	28.87'	51.34'
5	27°04'40"	33°42'53"	169.94'	40.92'	80.31'
6	36°13'41"	46°46'19"	122.50'	40.07'	77.46'
7	67°54'39"	28°38'52"	200.00'	134.68'	273.05'
8	23°09'16"	37°25'00"	153.13'	31.37'	61.68'
9	65°22'00"	127°19'26"	45.00'	28.87'	51.34'
10	21°12'02"	32°54'01"	174.15'	32.59'	64.44'



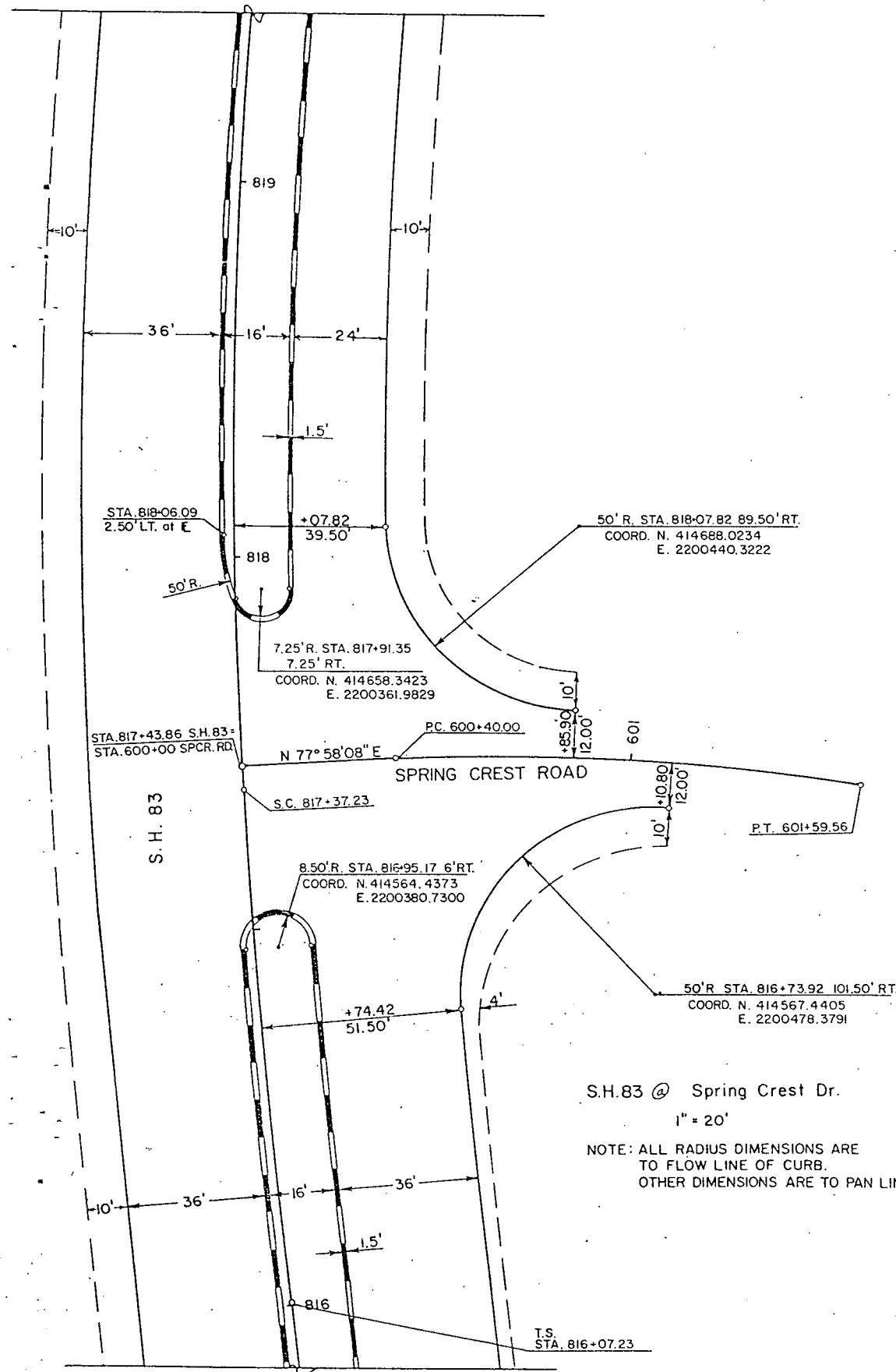
**I 25/BRIARGATE PARKWAY INTERCHANGE  
S.H. 83 INTERSECTION LAYOUT**

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	

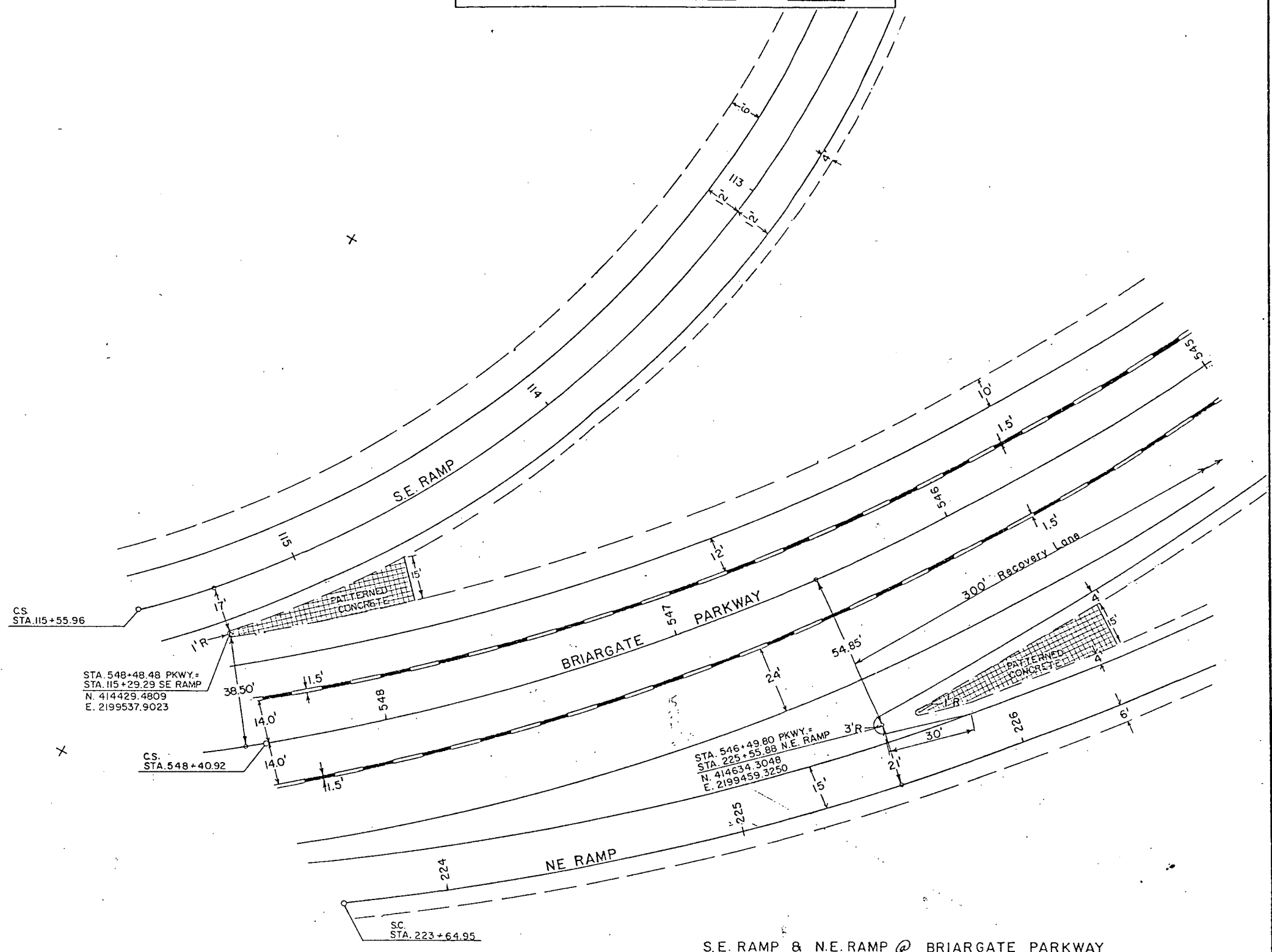
PREPARED BY URS COMPANY DENVER

AS CONSTRUCTED  
 NO REVISIONS **B-17-87** REVISED  VOID

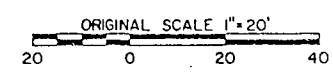
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	21	



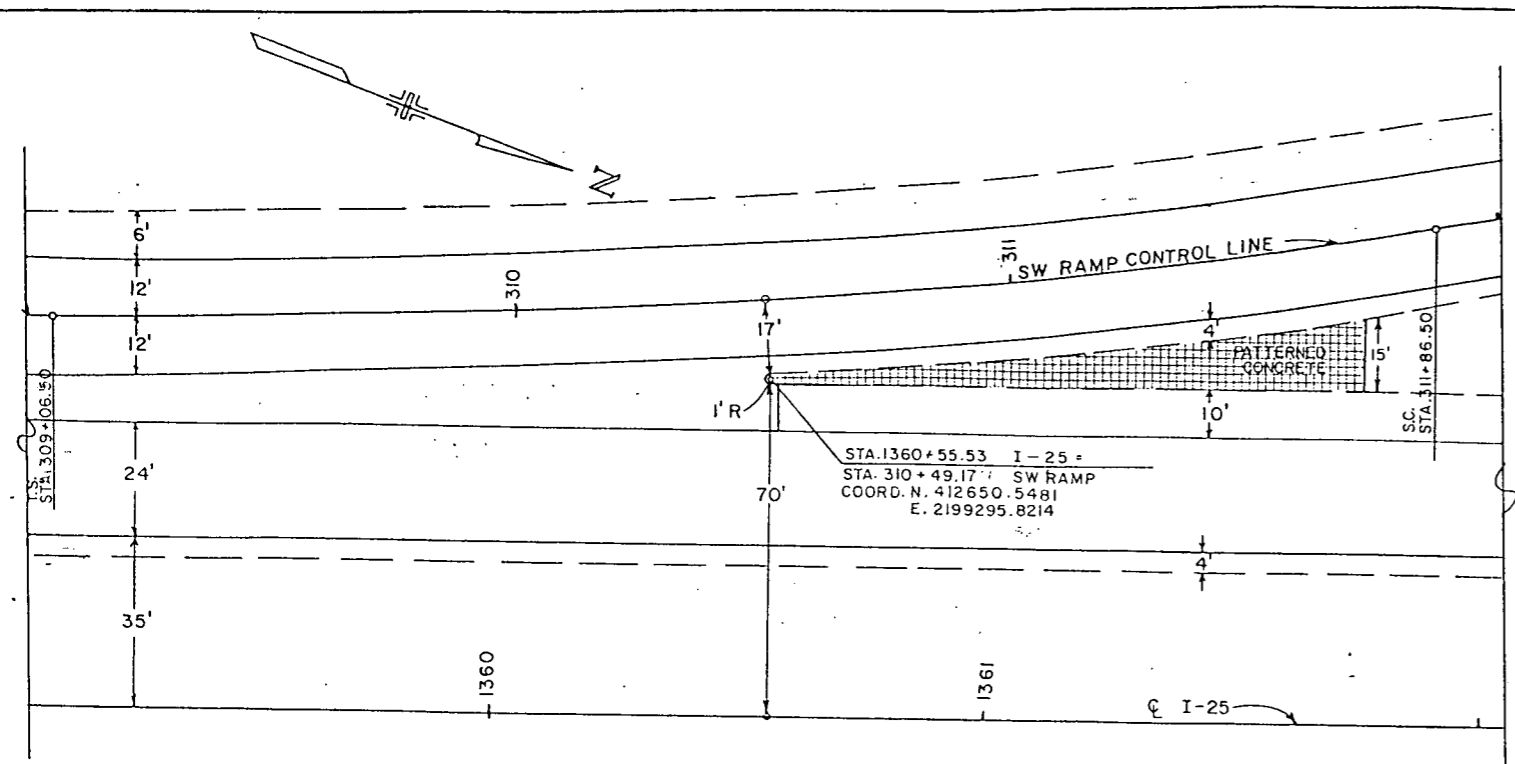
S.H.83 @ Spring Crest Dr.  
 1" = 20'  
 NOTE: ALL RADIUS DIMENSIONS ARE TO FLOW LINE OF CURB.  
 OTHER DIMENSIONS ARE TO PAN LINE.



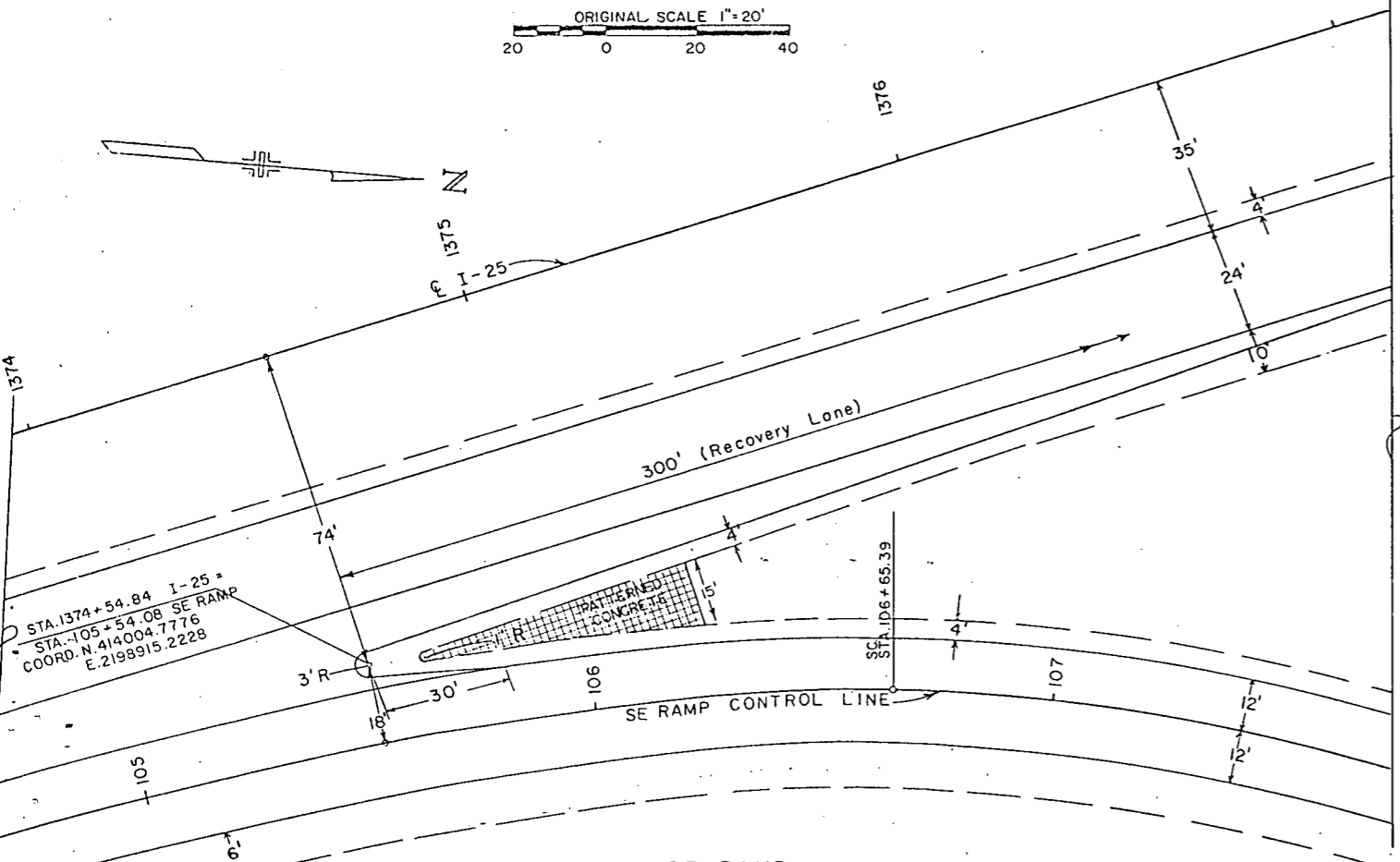
S.E. RAMP & N.E. RAMP @ BRIARGATE PARKWAY



BRIARGATE RAMP NOSES AND SPRING CREST INTERSECTION				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
2-7-85	URS	K.E.H.		
		CHECKED BY	OF	SHEETS

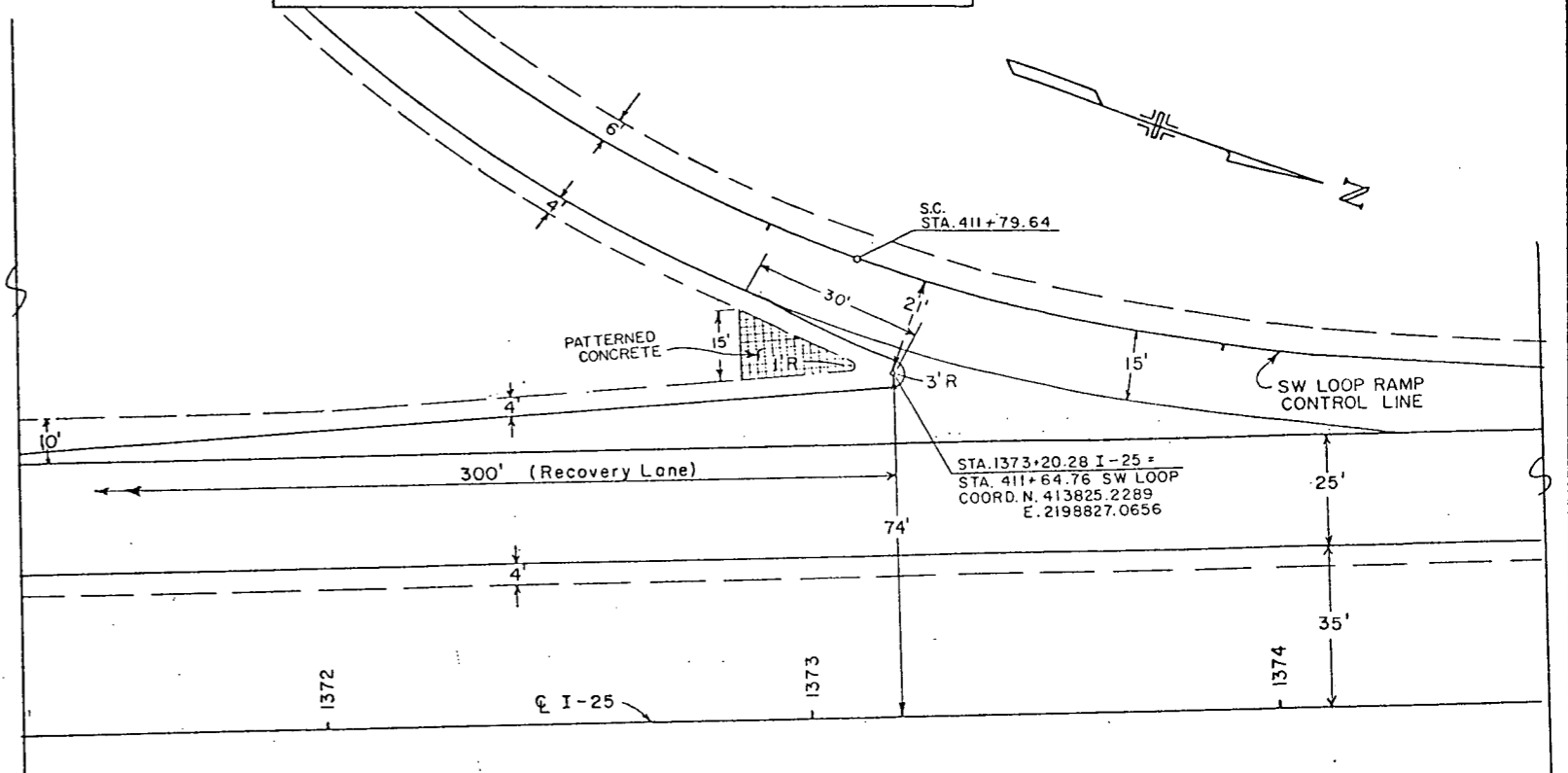


SW RAMP  
ORIGINAL SCALE 1"=20'

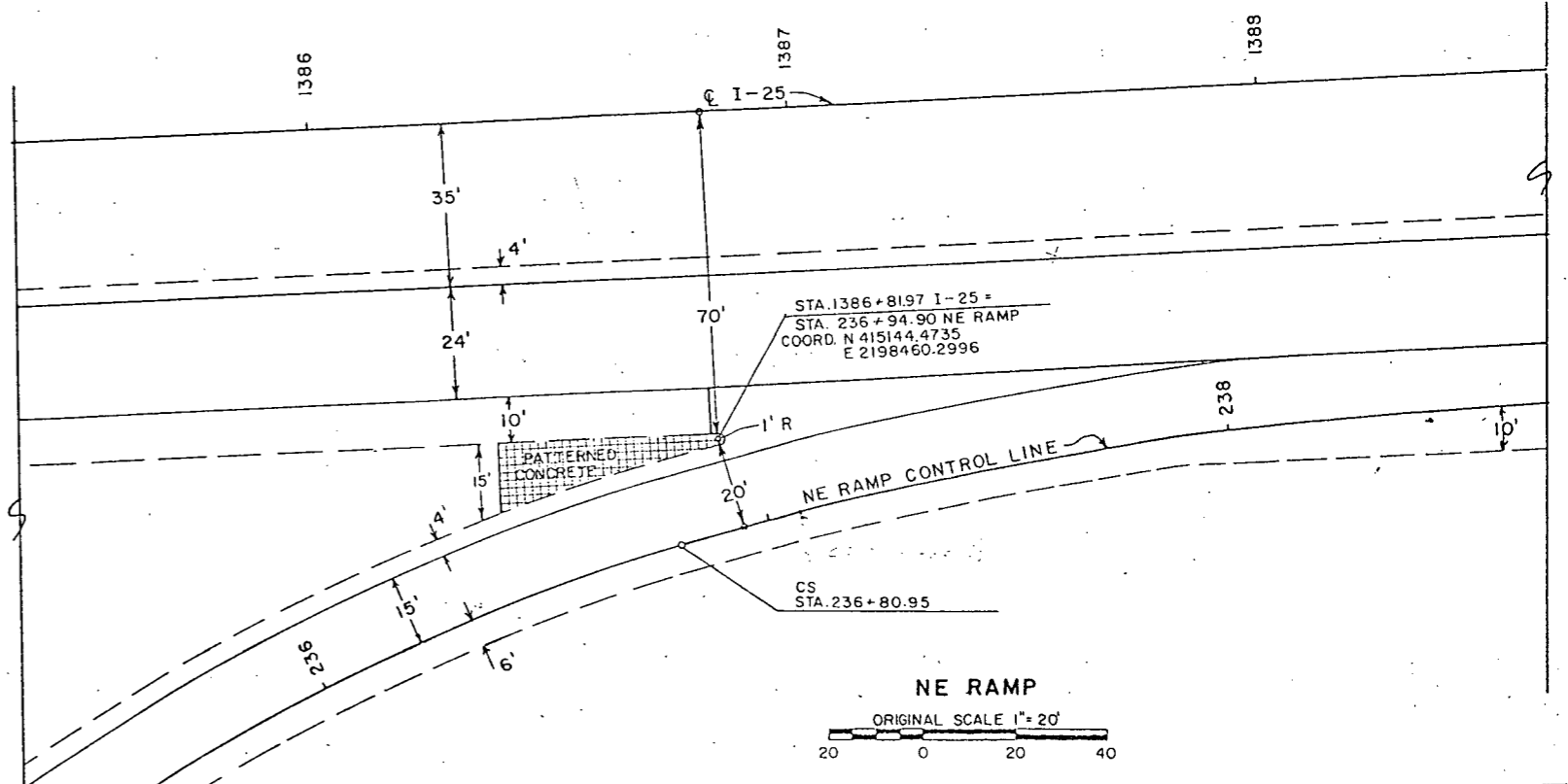


SE RAMP  
ORIGINAL SCALE 1"=20'

AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS <span style="border: 1px solid black; padding: 2px;">6-17-B7</span> REVISED <span style="border: 1px solid black; padding: 2px;"> </span> VOID <span style="border: 1px solid black; padding: 2px;"> </span>		VIII	COLORADO	CC 04-0025-19	22	

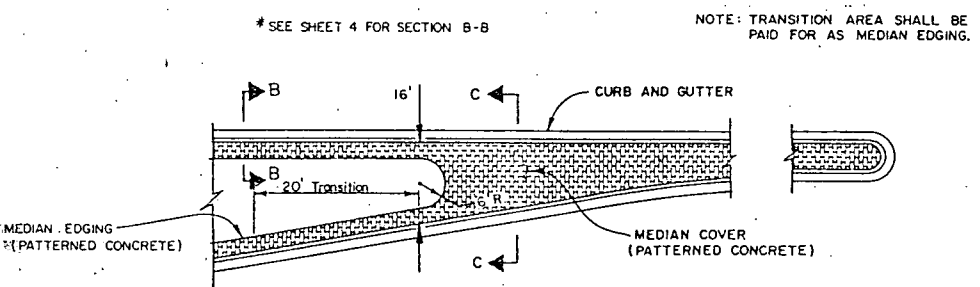
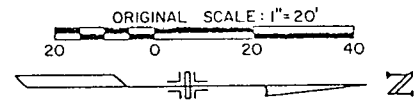
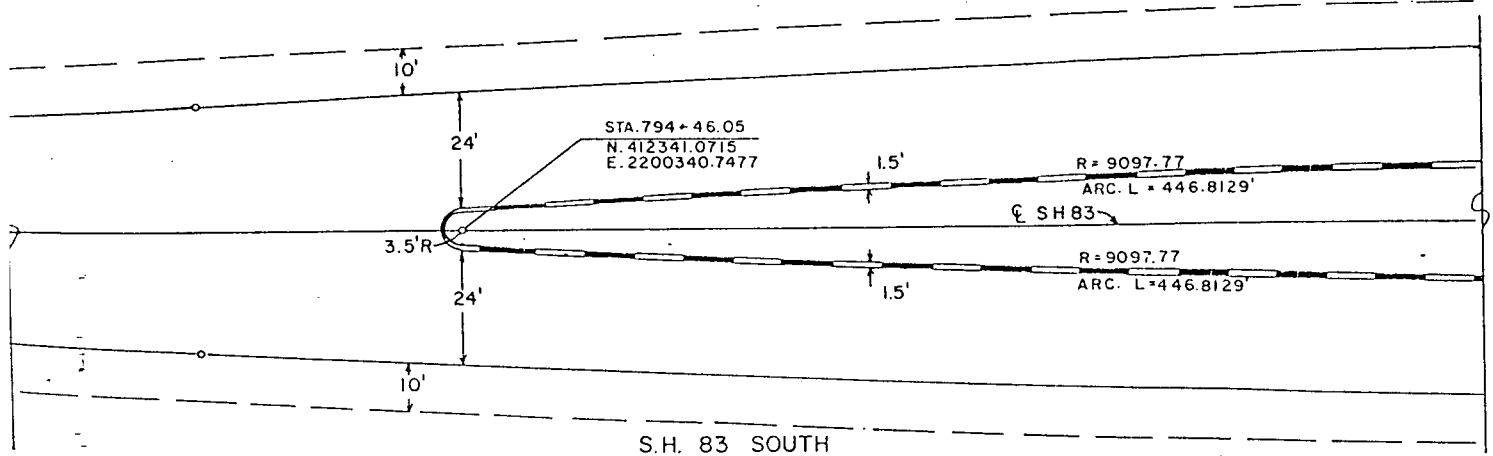


SW LOOP RAMP  
ORIGINAL SCALE 1"=20'

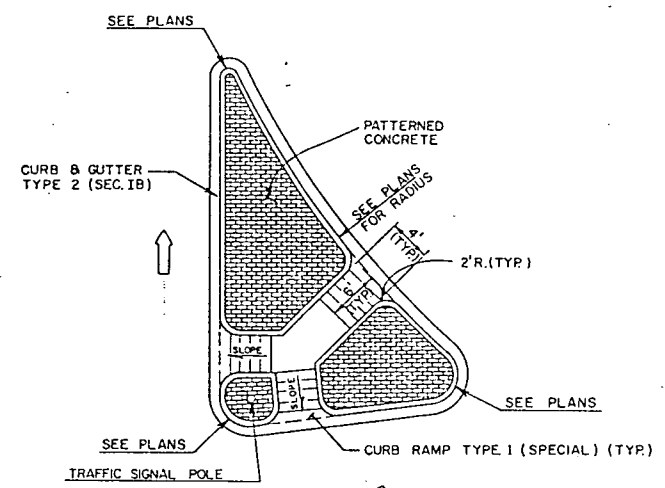


NE RAMP  
ORIGINAL SCALE 1"=20'

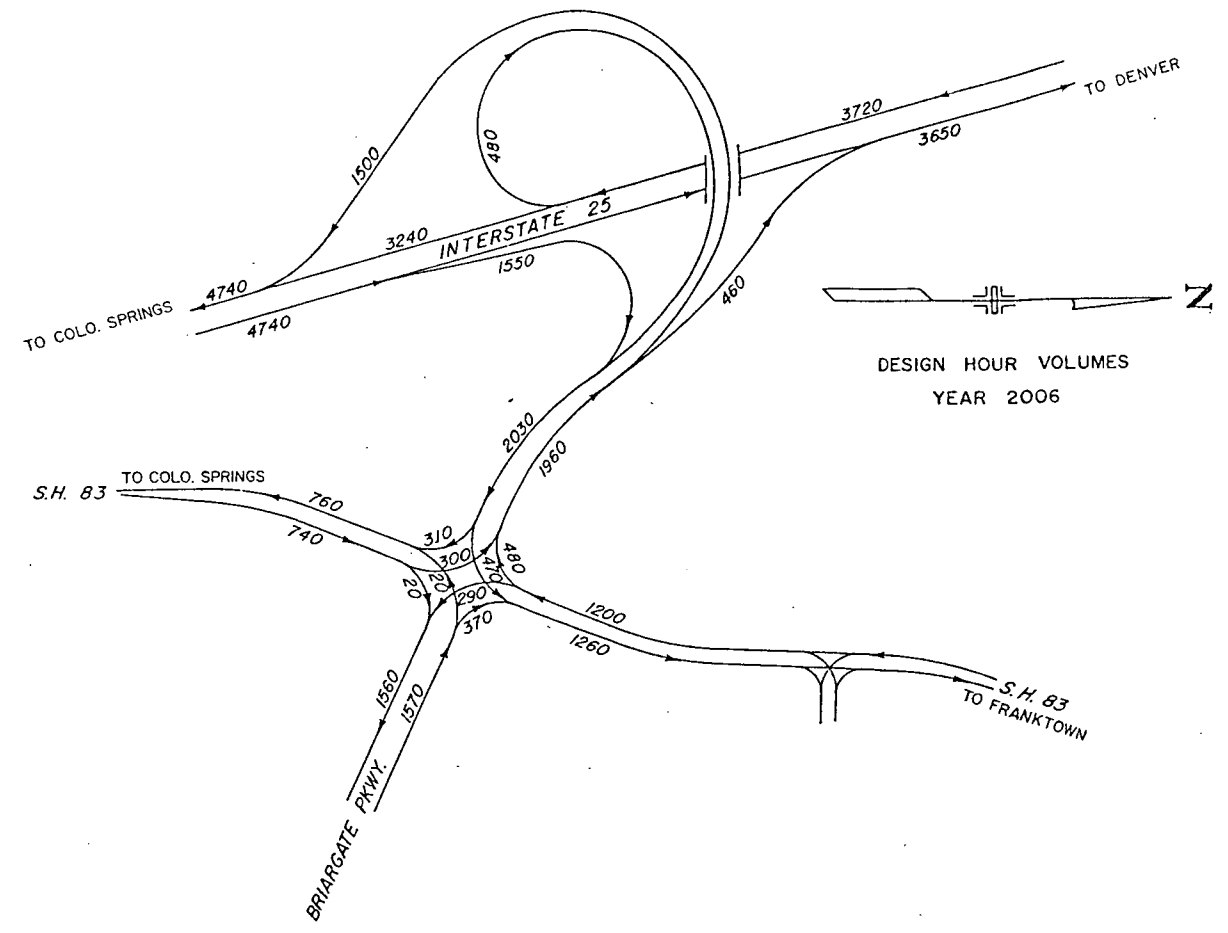
I 25 / BRIARGATE PARKWAY INTERCHANGE					
RAMP NOSE DETAILS					
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.	
2-7-65	URS	KER			
		CHECKED BY	OF	SHEETS	



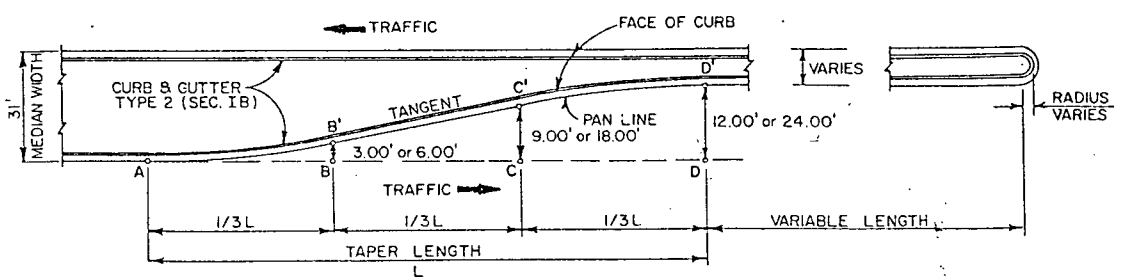
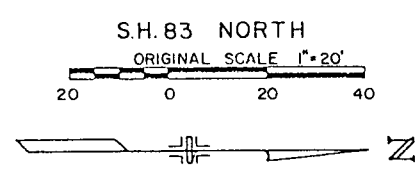
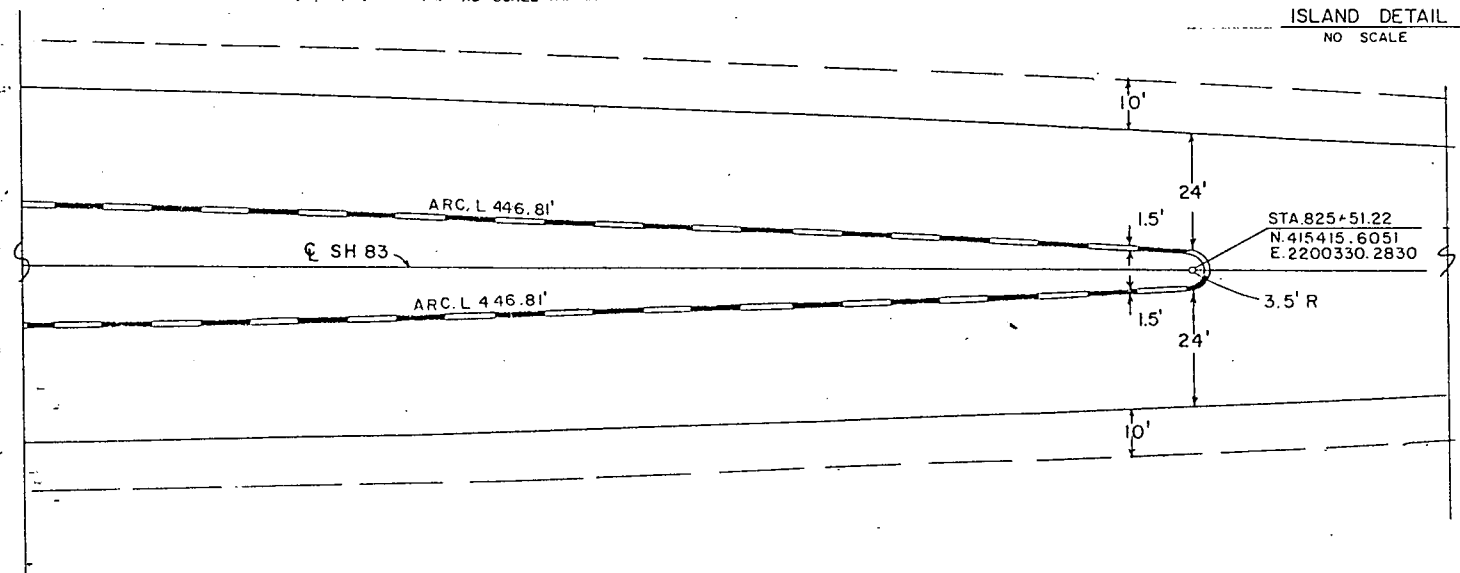
MEDIAN EDGING TRANSITION DETAIL  
NO SCALE



ISLAND DETAIL  
NO SCALE



DESIGN HOUR VOLUMES  
YEAR 2006



SPEED-CHANGE LANE TAPER DETAIL (SEE TABLE FOR LOCATIONS)

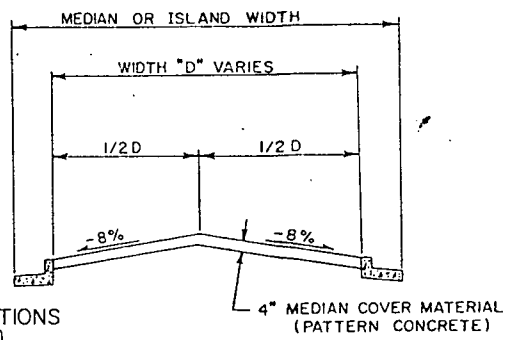
PARABOLIC DISTANCE/OFFSET TABLE

OFFSET DISTANCE		DISTANCE FROM POINT A	
DD'=12'	DD'=24'	L=90'	L=180'
0.00	0.00	0.00	0.00
0.19	0.38	7.50	15.00
0.75	1.50	15.00	30.00
1.69	3.38	22.50	45.00
3.00	6.00	30.00	60.00
6.00	12.00	45.00	90.00
9.00	18.00	60.00	120.00
10.31	20.62	67.50	135.00
11.25	22.50	75.00	150.00
11.81	23.62	82.50	165.00
12.00	24.00	90.00	180.00

AD = TAPER LENGTH  
 AB' AND C'D' ARE PARABOLIC CURVES  
 (SEE DISTANCE/OFFSET TABLE)  
 NOTE: SEE PLAN SHEET AND TYPICAL  
 SECTIONS FOR MEDIAN DIMENSIONS.

MEDIAN SPEED-CHANGE LANE LOCATIONS

DIRECTION OF TRAFFIC	STATION AT A OR D	L, FT.	W, FT.
N.B. (S.H. 83)	798+92.5(A)	180'	24'
N.B. (S.H. 83)	813+79.42(A)	180'	12'
S.B. (S.H. 83)	810+89.05(D)	180'	24'
S.B. (S.H. 83)	812+75.17 (A)	180'	12'
S.B. (S.H. 83)	821+21.35 (D)	90'	12'
E.B. (Briargate)	556+69.65(D)	180'	24'



SECTION C-C  
MEDIAN / ISLAND  
COVER MATERIAL DETAIL

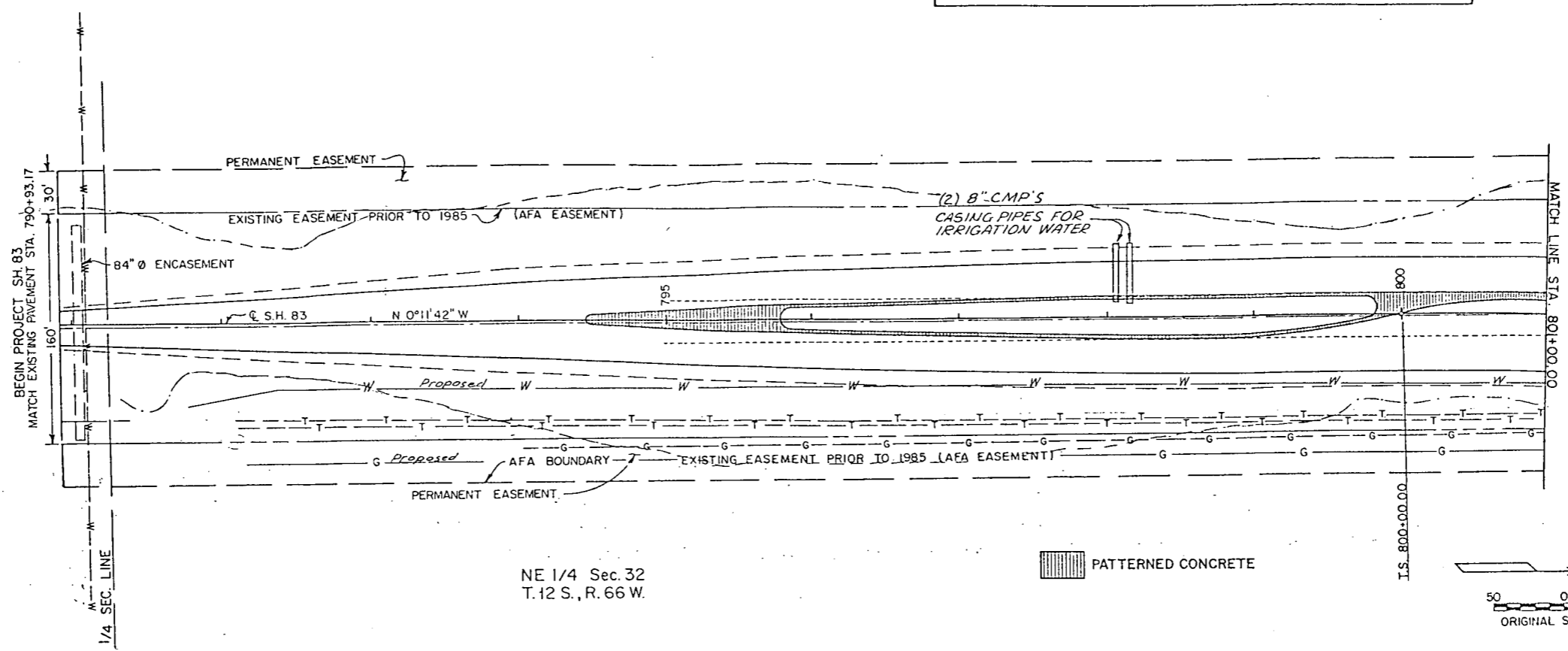
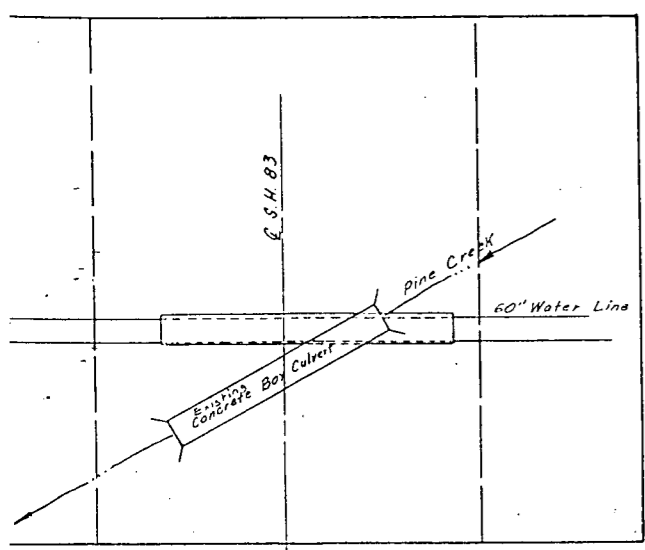
I-25/BRIARGATE PARKWAY INTERCHANGE

ROADWAY DETAILS

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	

AS CONSTRUCTED  
 NO REVISIONS  8-17-87 REVISED  VOID

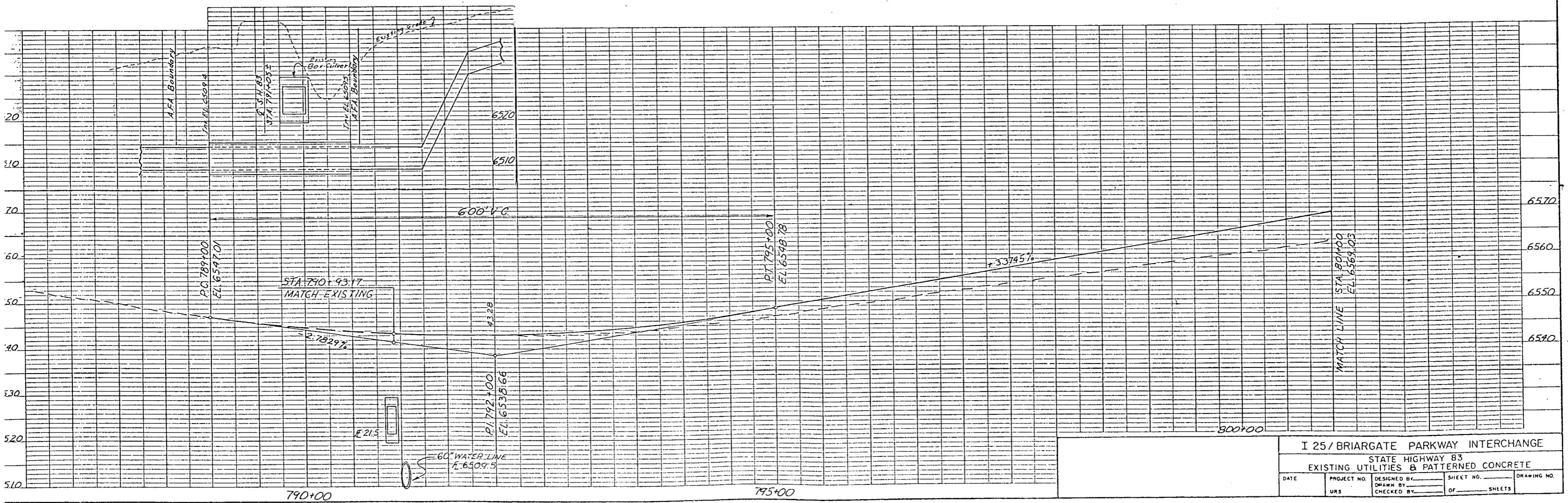
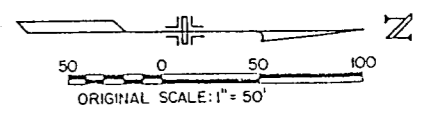
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	24	



SE 1/4 Sec. 32  
 T. 12 S., R. 66 W.

NE 1/4 Sec. 32  
 T. 12 S., R. 66 W.

PATTERNED CONCRETE

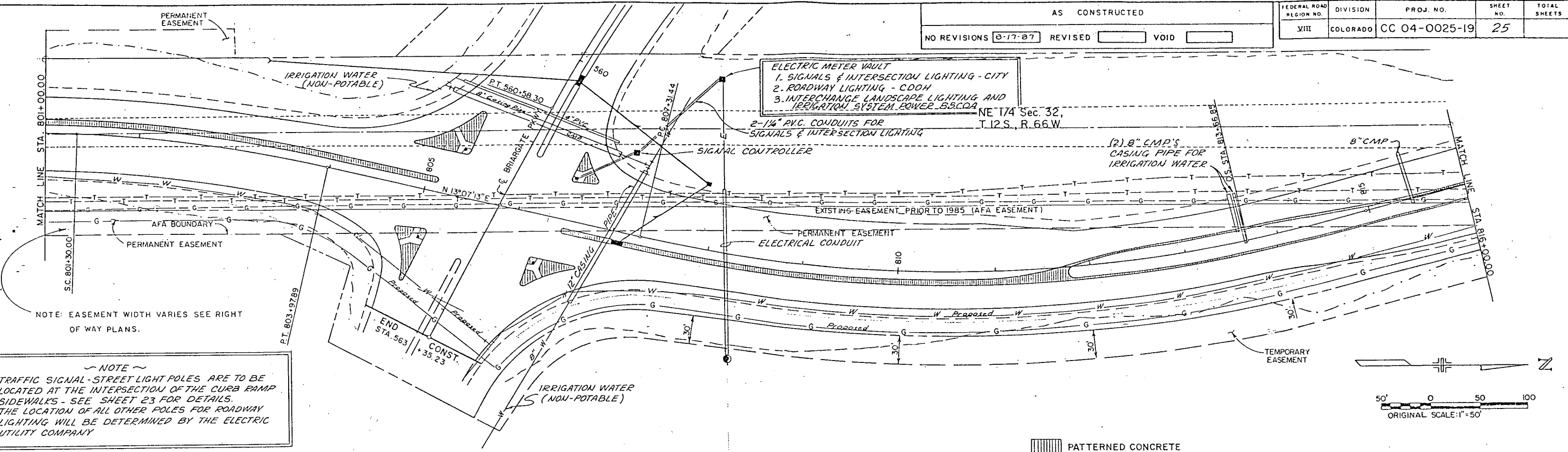


I 25 / BRIARGATE PARKWAY INTERCHANGE				
STATE HIGHWAY 83				
EXISTING UTILITIES & PATTERNED CONCRETE				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF	SHEETS



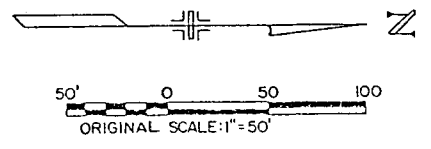
AS CONSTRUCTED  
 NO REVISIONS 0-17-87 REVISED VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	25	

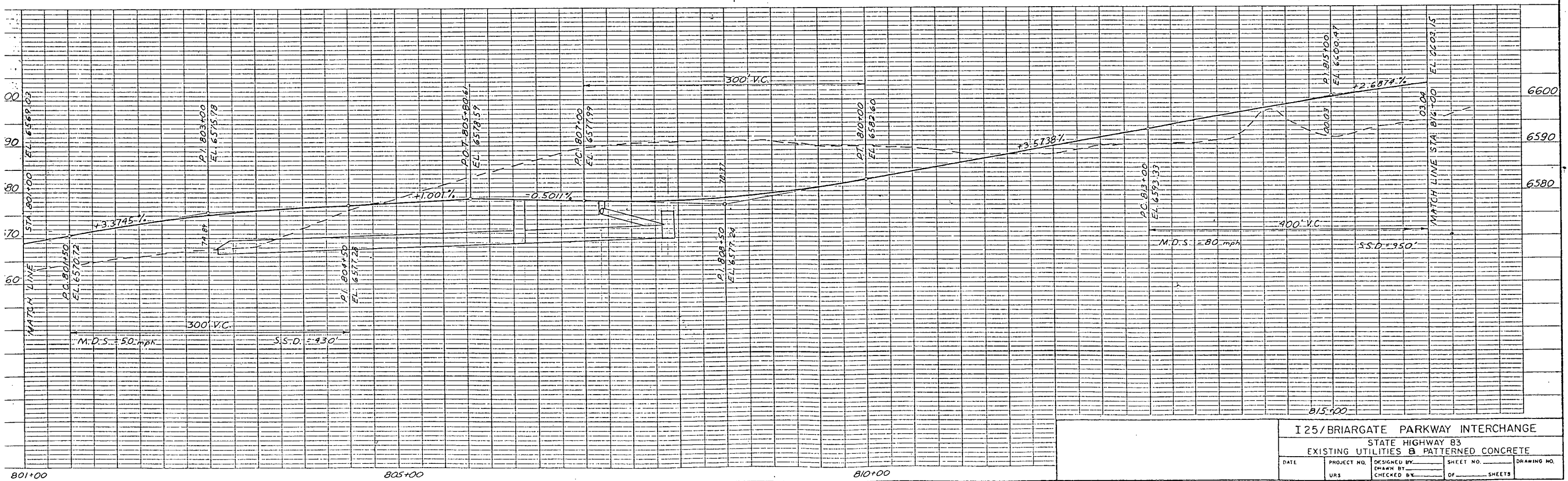


NOTE: EASEMENT WIDTH VARIES SEE RIGHT OF WAY PLANS.

NOTE  
 TRAFFIC SIGNAL-STREET LIGHT POLES ARE TO BE LOCATED AT THE INTERSECTION OF THE CURB RAMP SIDEWALKS - SEE SHEET 23 FOR DETAILS. THE LOCATION OF ALL OTHER POLES FOR ROADWAY LIGHTING WILL BE DETERMINED BY THE ELECTRIC UTILITY COMPANY



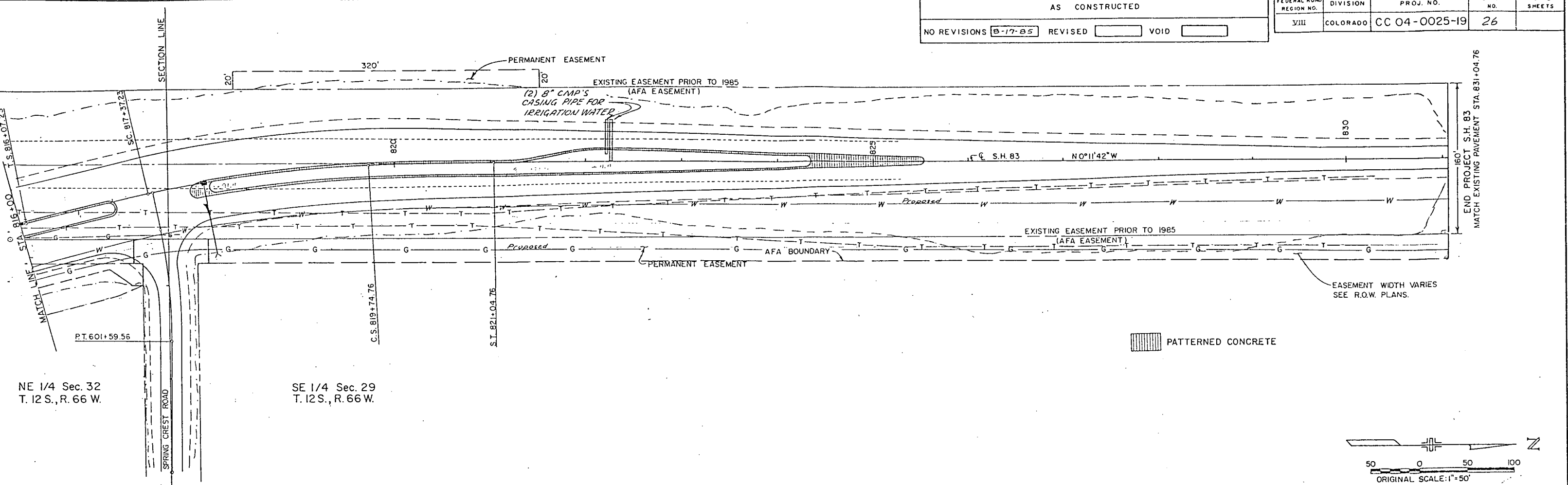
PATTERNED CONCRETE



I 25/BRIARGATE PARKWAY INTERCHANGE				
STATE HIGHWAY 83				
EXISTING UTILITIES & PATTERNED CONCRETE				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
URS		CHECKED BY	OF SHEETS	

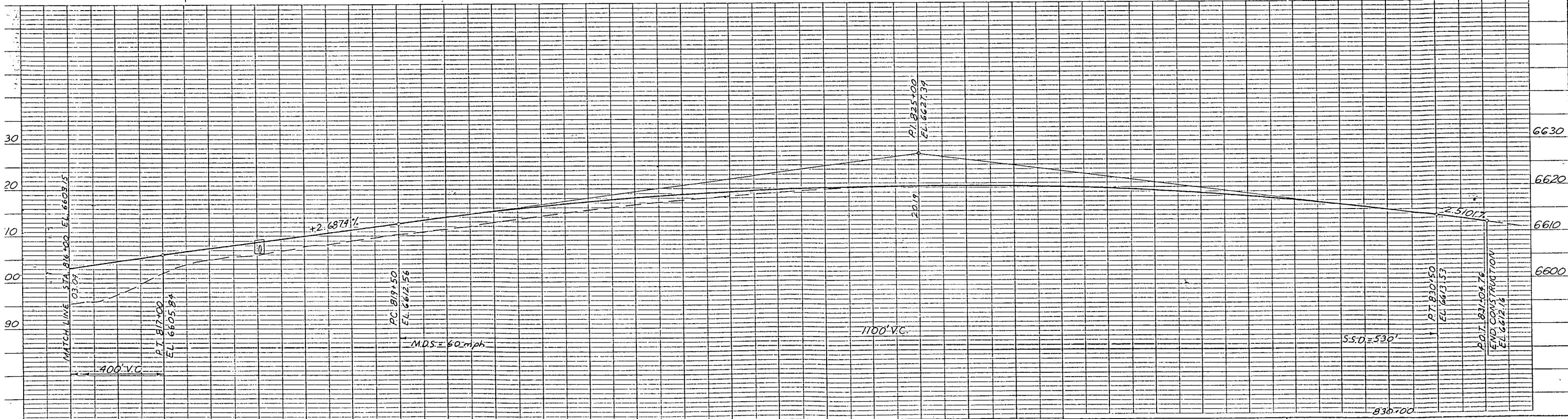
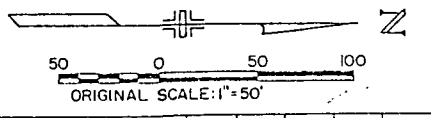
AS CONSTRUCTED  
 NO REVISIONS  B-17-B5 REVISED  VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	26	



NE 1/4 Sec. 32  
 T. 12 S., R. 66 W.

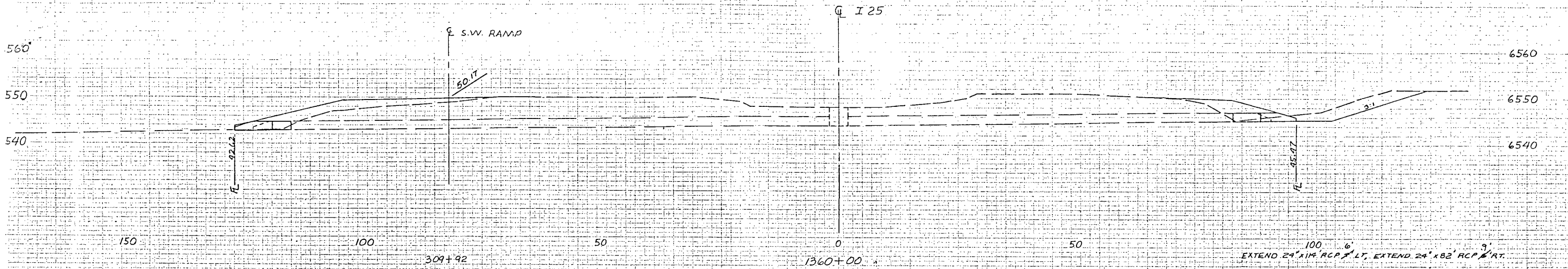
SE 1/4 Sec. 29  
 T. 12 S., R. 66 W.



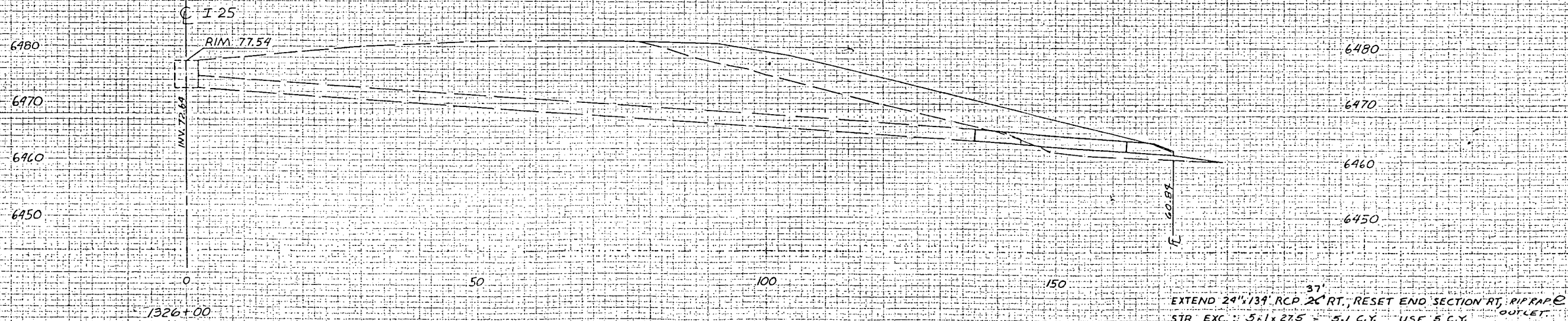
I 25/BRIARGATE PARKWAY INTERCHANGE				
STATE HIGHWAY 83				
EXISTING UTILITIES & PATTERNED CONCRETE				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
URS		CHECKED BY	OF SHEETS	

AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	REVISED 8-17-87	VIII	COLORADO	CC 04-0025-19	27	

Hor. 1"=10'  
Ver. 1"=10'



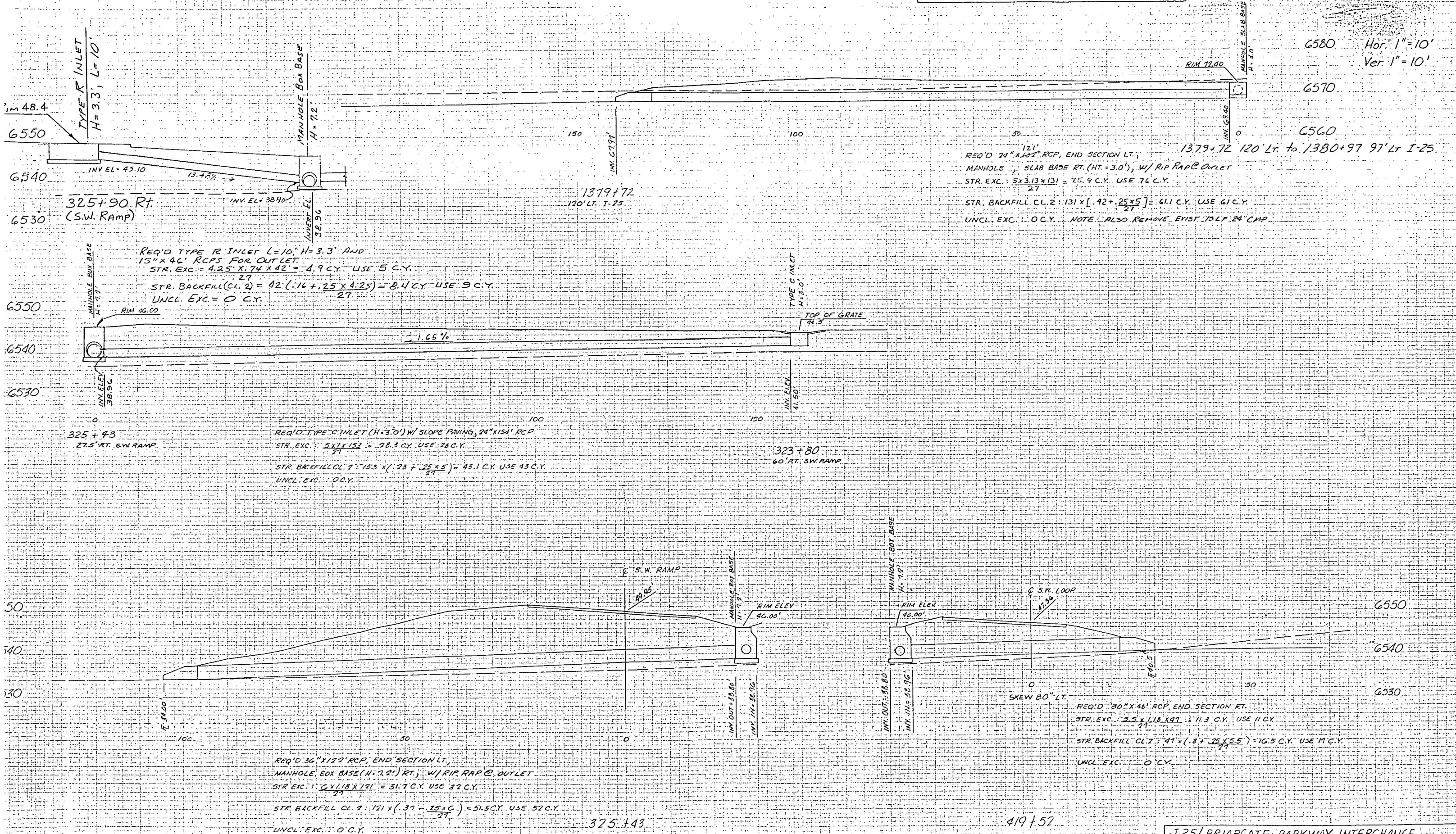
100' 6"  
EXTEND 24" x 14" RCP 6' LT, EXTEND 24" x 82" RCP 9' RT.  
RESET END SECTION LT. & RT, DITCH RT, & RIP RAP @ OUTLET  
STR. EXC.:  $\frac{5 \times 14 \times 10}{27} = 1.9$  C.Y. USE 2 C.Y.  
STR. BACKFILL CL. 2:  $10 \times .23 = 2.3$  C.Y. USE 2 C.Y.  
UNCL. EXC. 0 C.Y.



37'  
EXTEND 24" x 139" RCP 2' RT, RESET END SECTION RT, RIP RAP @ OUTLET  
STR. EXC.:  $\frac{5 \times 1 \times 275}{27} = 5.1$  C.Y. USE 5 C.Y.  
STR. BACKFILL CL. 2:  $275 \times .23 = 6.3$  C.Y. USE 6 C.Y.  
UNCL. EXC. (EMB): 0 C.Y.

I 25/BRIARGATE PARKWAY INTERCHANGE  
STRUCTURE CROSS SECTIONS

AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	REVISED 8-17-87	VOID	VIII	COLORADO	CC 04-0025-19	28



6580 Hor. 1"=10'  
 Ver. 1"=10'

6570

6560

6550

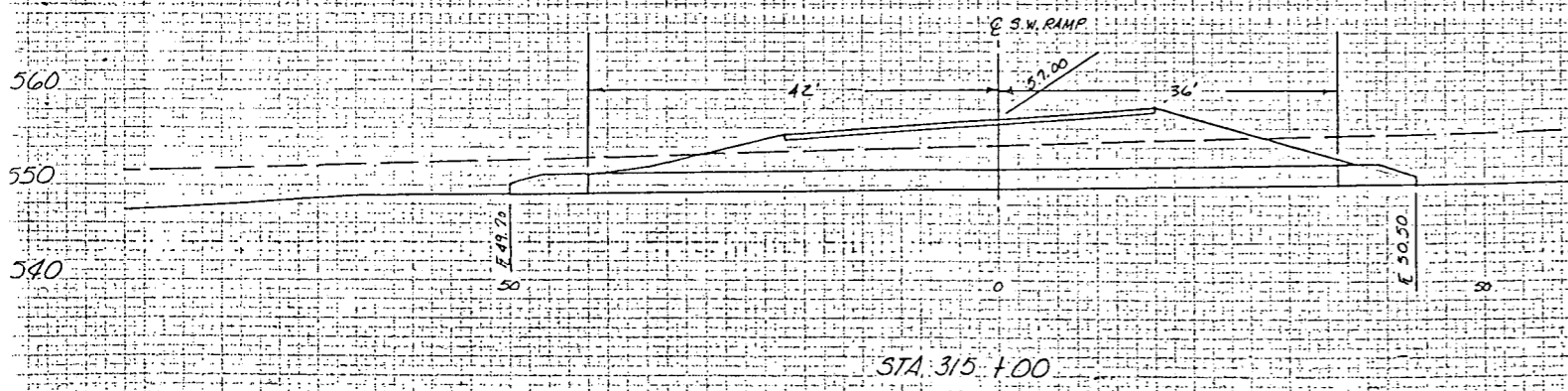
6540

6530

I-25/BRIARGATE PARKWAY INTERCHANGE  
 STRUCTURE CROSS SECTIONS

AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	3-17-87	REVISED		VIII	COLORADO	CC 04-0025-19	29

Hor. 1"=10'  
Ver. 1"=10'



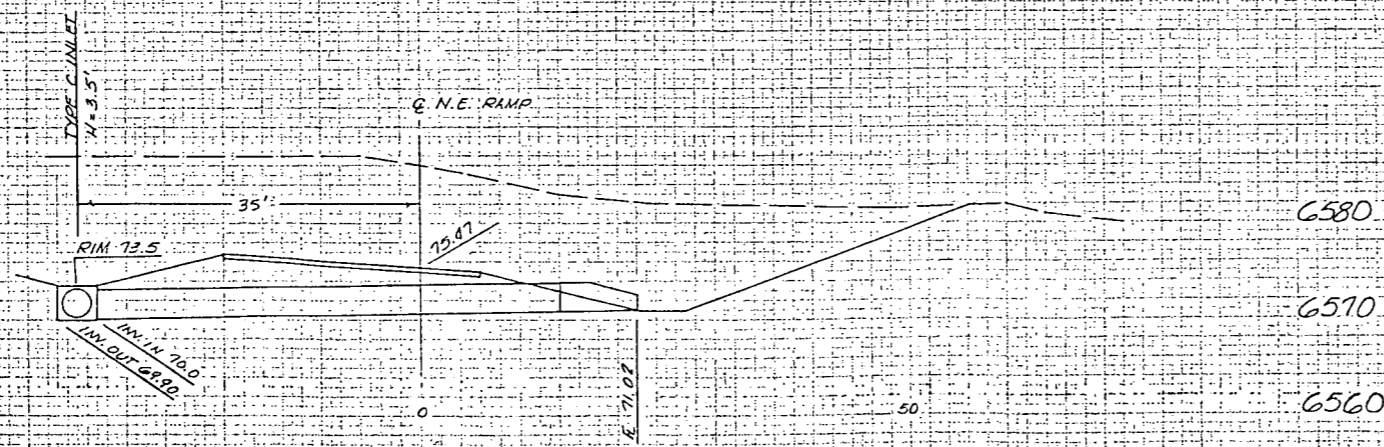
REQ'D. 24" x 78" RCP, END SECTION LT. 4 FT, W/ RIP RAP & OUTLET  
 STR. EXC. :  $5 \times \frac{42 \times 58}{27} + 5 \times \frac{36 \times 22}{27} = 68.3 \text{ C.Y.}$  USE 60 C.Y.  
 STR. BACKFILL C. 2 :  $80(.05 + .14 + .22) = 40.8 \text{ C.Y.}$  USE 41 C.Y.  
 UNCL. EXC. (EMB.) :  $60 - \left[ 5 \times \frac{(42 + 36) \times 80}{27} \right] = 19.9 \text{ C.Y.}$  USE 20 C.Y.

I25/BRIARGATE PARKWAY INTERCHANGE  
 STRUCTURE CROSS SECTIONS

AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	8-17-87	REVISED		VIII	COLORADO	CC 04-0025-19	30

Hor. 1"=10'  
Ver. 1"=10'

80  
570  
560



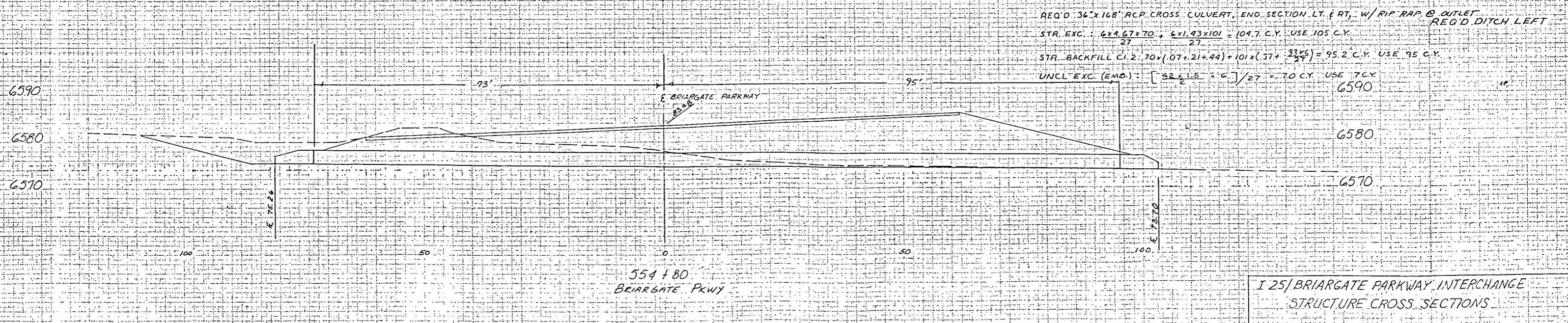
730780  
N.E. RAMP

REQ'D 86" x 48" RCP, END SECTION RT.  
 STR. EXC.  $\frac{6 \times 5.13 \times 12.5}{77} + \frac{6 \times 6.13 \times 34.5}{77} = 45.9 \text{ C.Y. USE } 46 \text{ C.Y.}$   
 STR. BACKFILL CL. 7'  $47' \times (0.71 + .21 + .44) = 38.0 \text{ C.Y. USE } 38 \text{ C.Y.}$   
 UNCL. EXC. (EMB):  $46 - \left[ \frac{6 \times (11.31 + 3.3) \times 33}{27} \right] = 14.2 \text{ C.Y. USE } 14 \text{ C.Y.}$

125/ BRIARGATE PARKWAY INTERCHANGE  
STRUCTURE CROSS SECTIONS

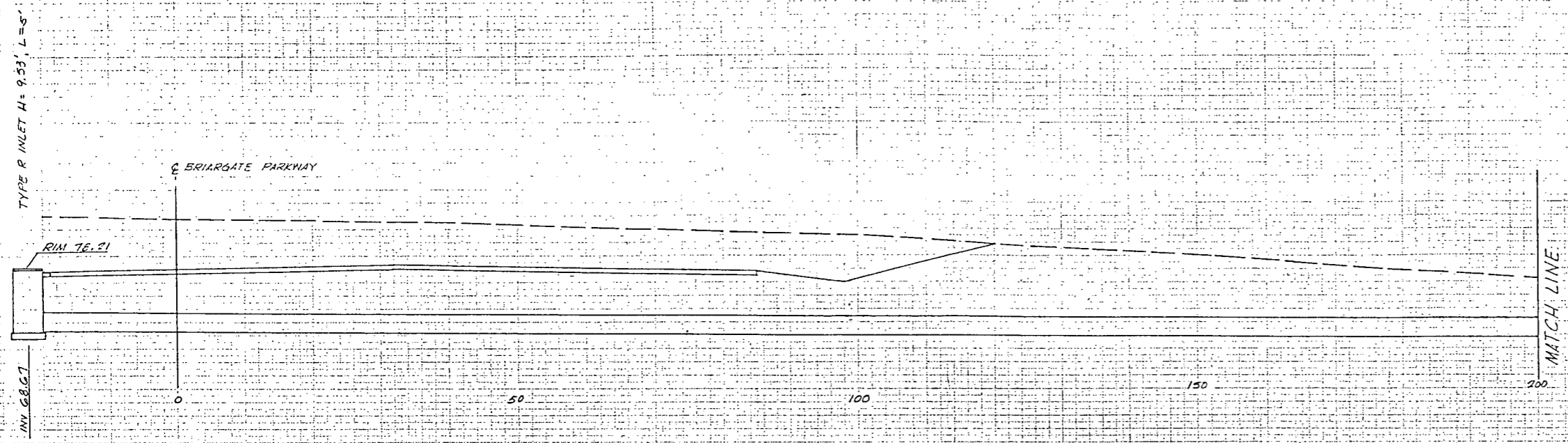
AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	2-17-87	REVISED	VIII	COLORADO	CC 04-0025-19	31	

Hor. 1" = 10'  
Ver. 1" = 10'



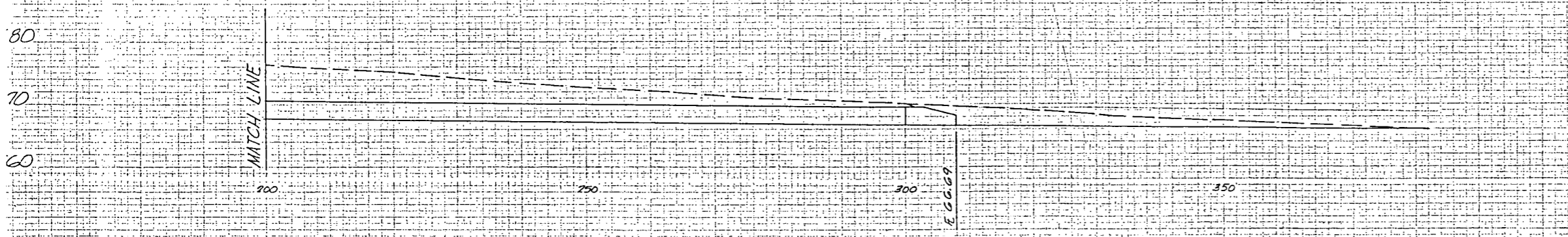
AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	8-17-87	REVISED	VOID	VIII	COLORADO	CC 04-0025-19
					32	

Hor 1"=10'  
Ver 1"=10'



STA. 560+25  
SKEW 66 RT

REQ'D. 36" x 370' RCP, END SECTION RT., TYPE R INLET (L=5', H=9.53) LT., W/ R/P RAD @ OUTLET  
 STR. EXC. :  $\frac{6 \times 9.33 \times 320}{27} = 663.5$  C.Y. USE 664 C.Y.  
 STR. BACKFILL CL. 2 :  $320 \times (.07 \times 21 \times .44) = 230.4$  C.Y. USE 230 C.Y.  
 UNCL. EXC. (EMB.) :  $664 - \frac{[(1.3 + .33) \times 6 \times 320]}{27} = 356.1$  C.Y. USE 356 C.Y.

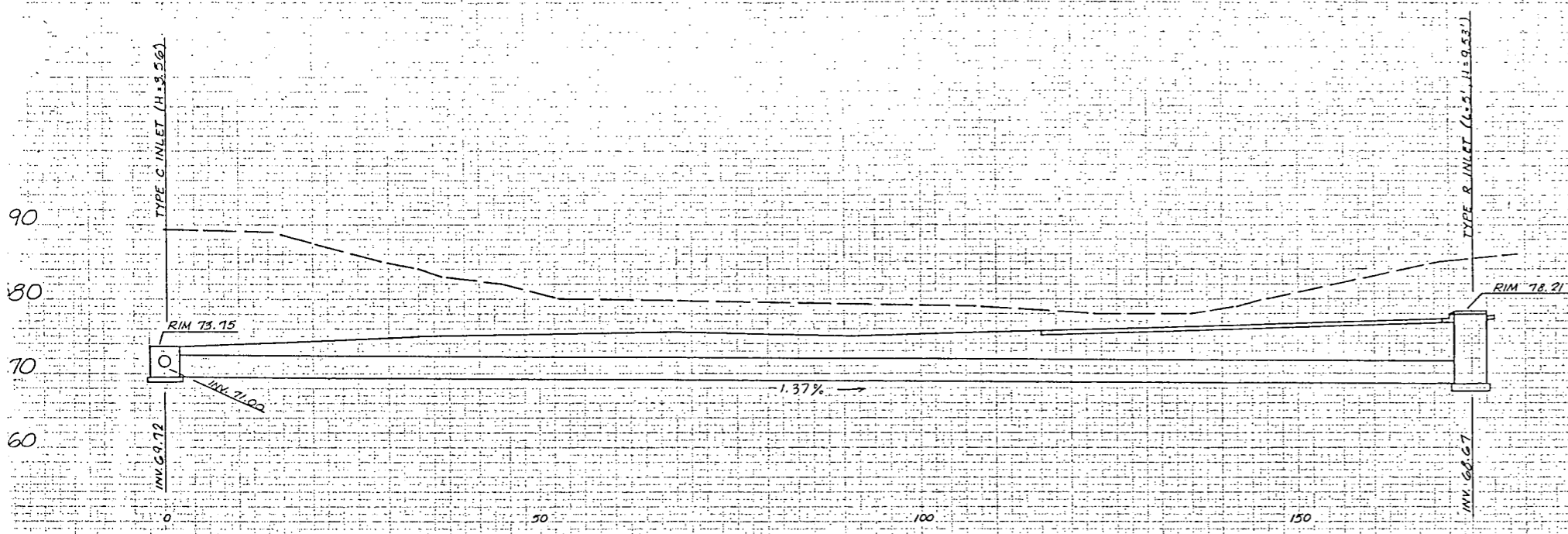


I 25/BRIARGATE PARKWAY INTERCHANGE  
STRUCTURE CROSS SECTIONS



AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	8-17-87	REVISED	VOID	VIII	COLORADO	CC 04-0025-19
					33	

Hor. 1" = 10'  
Ver. 1" = 10'



STA. 807+19  
S.H. 83 C&S LT.

STA. 560+21  
BRIARGATE PARKWAY 9.5' LT.

REQ'D 36" x 170' RCPS  
 STR. EXC. :  $(6 \times 633 \times 166) / 27 = 233.5 \text{ C.Y.}$  USE 234 C.Y.  
 STR. BACKFILL CL. 2 :  $166 \times (.07 \times .21 + .44) = 119.5 \text{ C.Y.}$  USE 120 C.Y.  
 UNCL. EXC. (EMB.) :  $234 - [(11 \times 3 + 33) \times 6 \times 166] / 27 = 74.5 \text{ C.Y.}$  USE 74 C.Y.

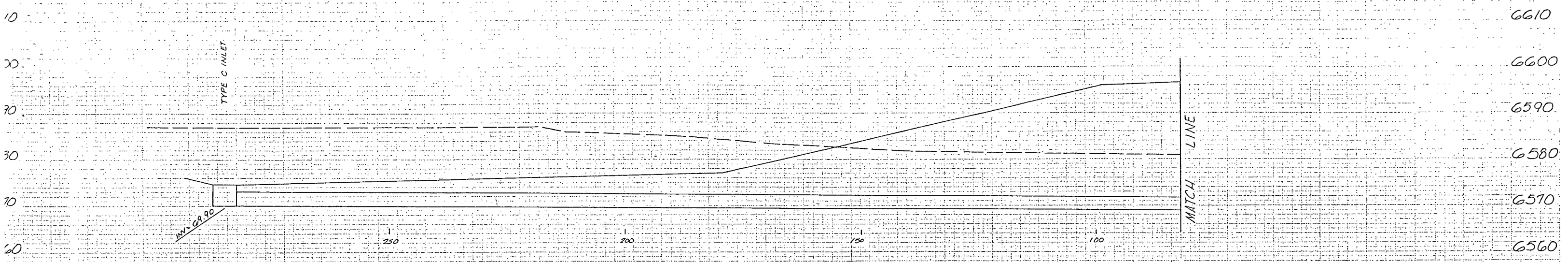


STA. 807+18  
SKEW 46.5° LT.

REQ'D 15" x 118' RCPS WITH TYPE R INLET RT.  
 (L=5', H=3.56') AND TYPE C INLET (H=3.83') W/ SLOPE PAVING LT.  
 STR. EXC. :  $(3 \times 251 \times 113) / 27 = 53.7 \text{ C.Y.}$  USE 53 C.Y.  
 STR. BACKFILL CL. 2 :  $113 \times (.04 \times .09 + .25) = 42.9 \text{ C.Y.}$  USE 43 C.Y.  
 UNCL. EXC. (EMB.) :  $53 - [(11 \times 25 + 25) \times 3 \times 113] / 27 = 8.5 \text{ C.Y.}$  USE 9 C.Y.

I 25/ BRIARGATE PARKWAY INTERCHANGE  
STRUCTURE CROSS SECTIONS

AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	9-17-87	REVISED		VIII	COLORADO	CC 04-0025-19	34



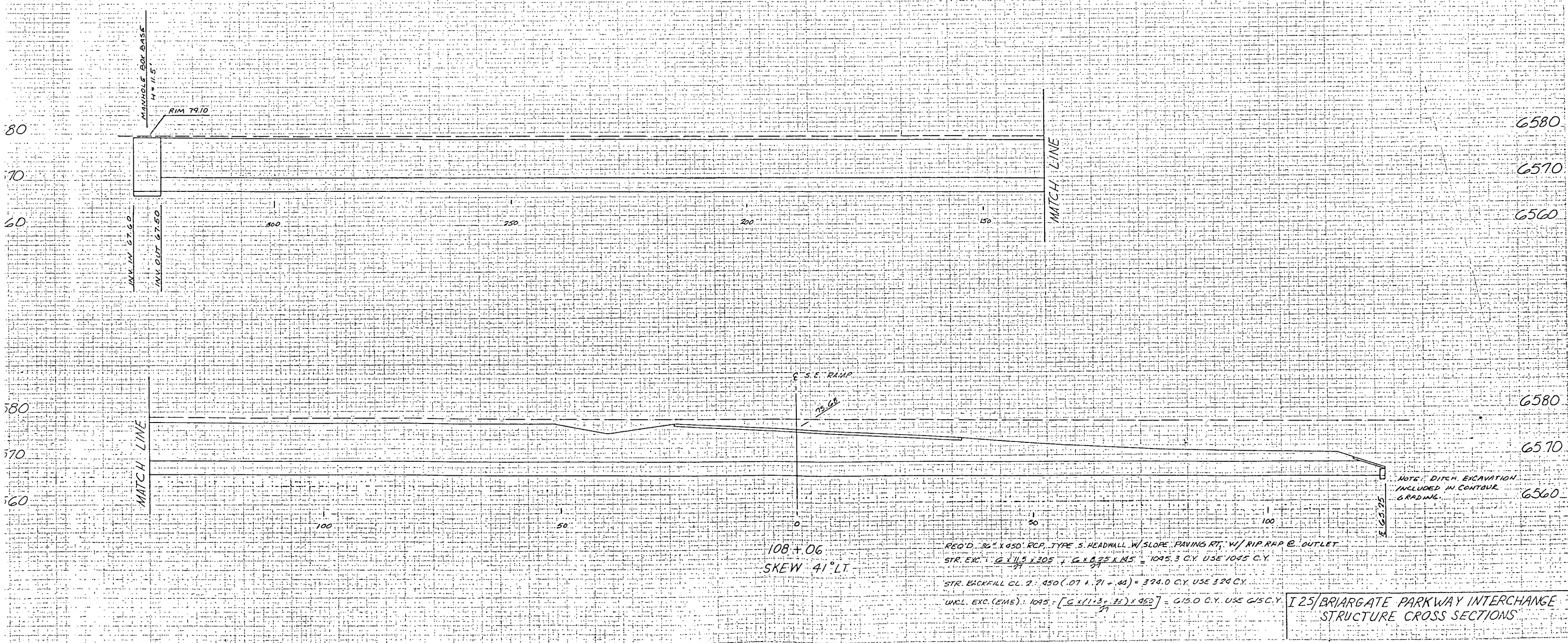
539+15  
SKEW 81° RT

REQ'D. 36" X 960' RCP, TYPE C INLET (H=3.5') W/ SLOPE PAVING LT., MANHOLE, BOX BASE (H=11.5') RT.  
 STR. EXC.  $\frac{6 \times 11.5 \times 295}{27} + \frac{6 \times 1.75 \times 165}{27} = 1056.0$  C.Y. USE 1056 C.Y.  
 STR. BACKFILL CL. 7:460 (.07 + .21 + .44) = 331.7 C.Y. USE 331 C.Y.  
 UNCL. EXC. (EMB.)  $1056 - \left[ \frac{6 \times (11.34 + 33)}{27} \times 960 \right] = 615.4$  C.Y. USE 613 C.Y.

I 25/ BRIARGATE PARKWAY INTERCHANGE  
STRUCTURE CROSS SECTIONS

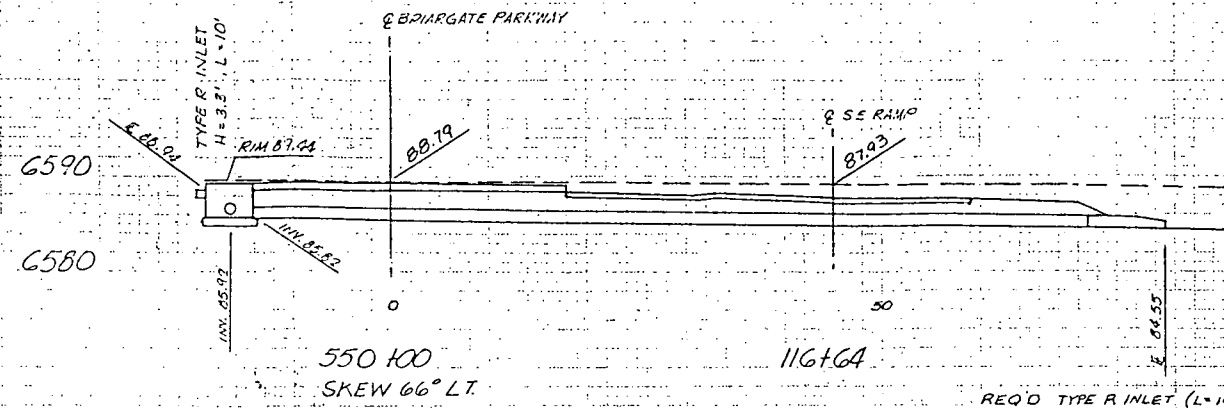
AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	8-17-87	REVISED	VIII	COLORADO	CC 04-0025-19	35

Hor. 1" = 10'  
Ver. 1" = 10'

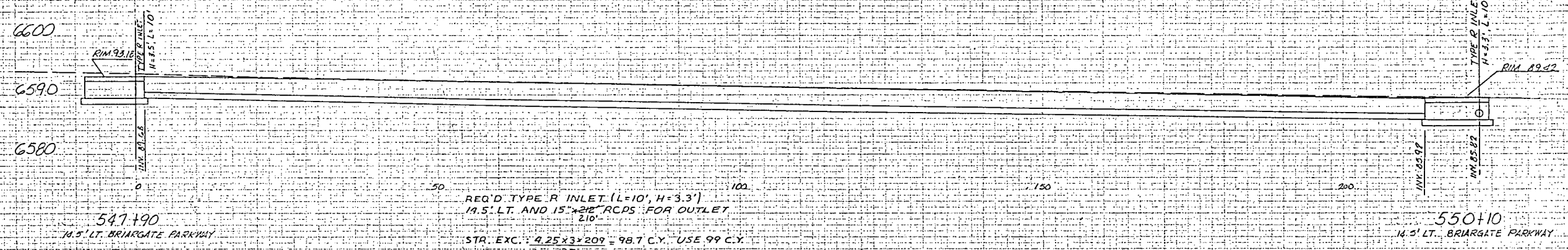


AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	REVISED 8-17-87	VOID	VIII	COLORADO	CC 04-0025-19	36

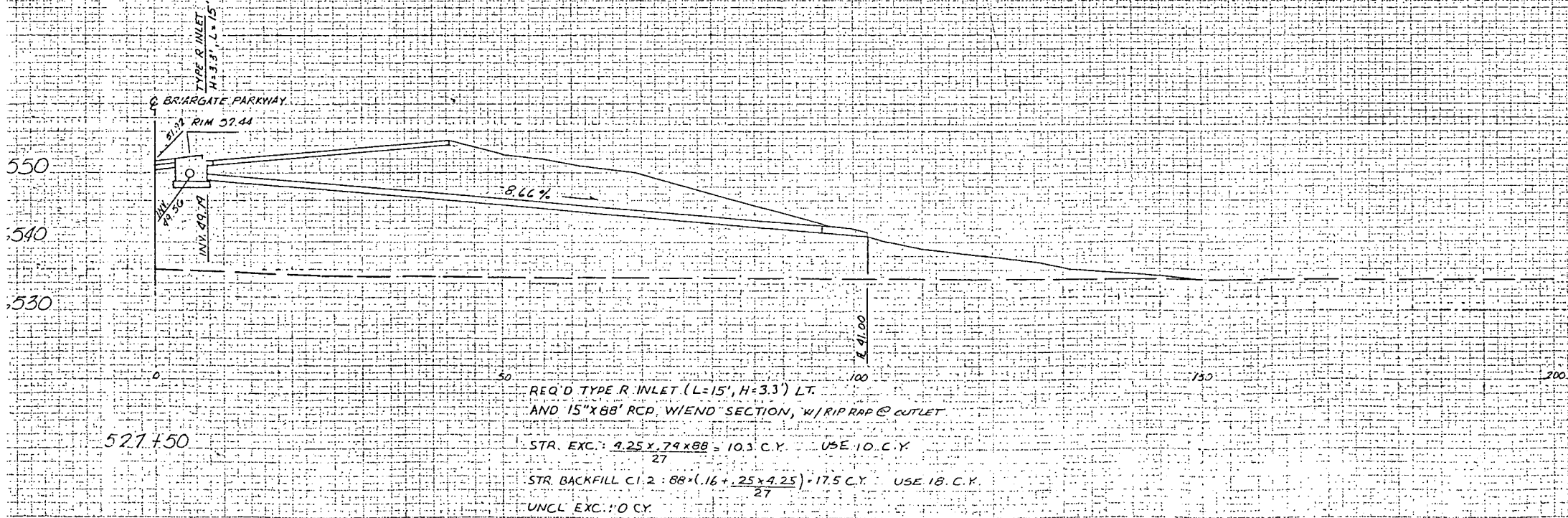
Hor. 1" = 10'  
Ver. 1" = 10'



REQ'D TYPE R INLET (L=10, H=3.3) 19.5' LT. AND 15" X 86' RCP. W/END SECTION, W/ RIP RAP @ OUTLET  
STR. EXC.:  $4.25 \times 2.00 \times 27 = 22.7$  C.Y. USE 39 C.Y.  
STR. BACKFILL CL. 2:  $85 \times (.04 + .09 + .25) = 32.3$  C.Y. USE 32 C.Y.  
UNCL. EXC.: 0 C.Y.



REQ'D TYPE R INLET (L=10, H=3.3) 19.5' LT. AND 15" X 28' RCP'S FOR OUTLET  
STR. EXC.:  $4.25 \times 3 \times 209 = 98.7$  C.Y. USE 99 C.Y.  
STR. BACKFILL CL. 2:  $209 \times (.09 + .09 + .25) = 79.4$  C.Y. USE 79 C.Y.  
UNCL. EXC.: 0 C.Y.



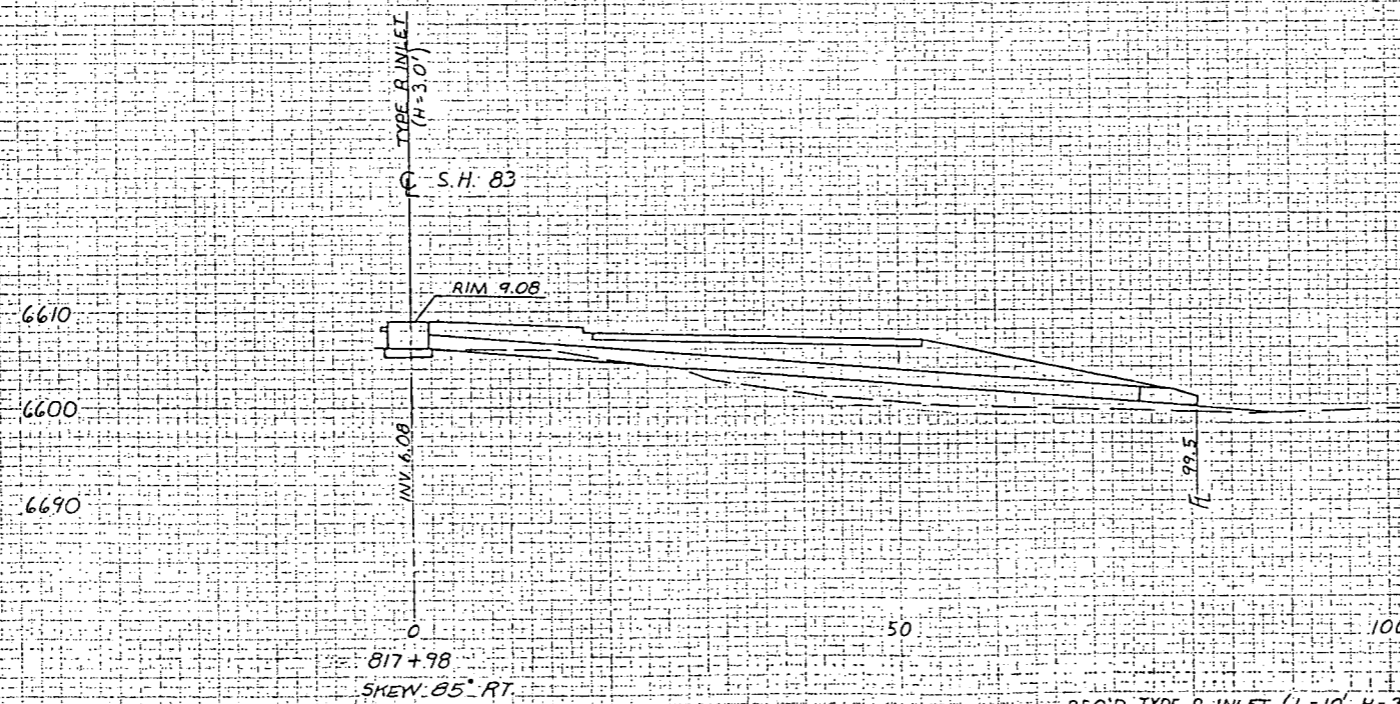
REQ'D TYPE R INLET (L=15, H=3.3) LT. AND 15" X 88' RCP. W/END SECTION, W/ RIP RAP @ OUTLET  
STR. EXC.:  $4.25 \times 7.9 \times 88 = 10.3$  C.Y. USE 10 C.Y.  
STR. BACKFILL CL. 2:  $88 \times (.16 + .25 \times 4.25) = 17.5$  C.Y. USE 18 C.Y.  
UNCL. EXC.: 0 C.Y.

I 25/BRIARGATE PARKWAY INTERCHANGE  
STRUCTURE CROSS SECTIONS

AS CONSTRUCTED  
 NO REVISIONS 8-17-87 REVISED \_\_\_\_\_ VOID \_\_\_\_\_

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	37	

Hor. 1"=10'  
 Ver. 1"=10'

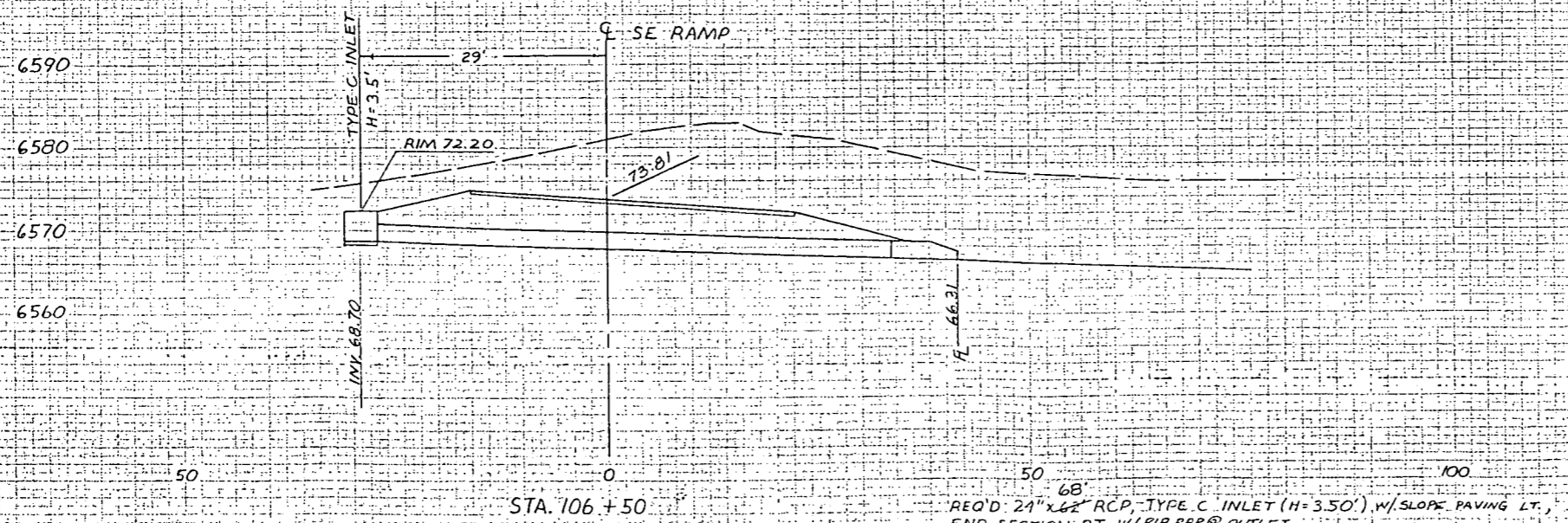


REQ'D TYPE R INLET (L=10', H=3.0') LT. AND  
 15" X 79" RCP W/ END SECTION RT, W/ RIP RAP @ OUTLET  
 STR. EXC:  $\frac{4.25 \times 2 \times 26}{27} + \frac{4.25 \times 14 \times 47}{27} = 13.4 \text{ CY. USE 14 CY.}$   
 STR. BACKFILL CL. 2:  $26(.09 + .09 + .25) + 47 \times (.16) = 17.4 \text{ CY. USE 17 CY.}$   
 UNCL. EXC.: 0 CY.

I 25/ BRIARGATE PARKWAY INTERCHANGE  
 STRUCTURE CROSS SECTIONS

AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	REVISED 8-17-87	VOID	VIII	COLORADO	CC 04-0025-19	38	

Hor. 1"=10'  
Ver. 1"=10'



REQ'D 21" x 62" RCP, TYPE C INLET (H=3.50') W/ SLOPE PAVING LT.,  
END SECTION RT, W/ RIPRAP @ OUTLET  
STR. EXC. :  $\frac{51 \times 5.25 \times 61}{27} = 59.3 \text{ CY}$  USE 59 CY  
STR. BACKFILL CL. 2 :  $61 \times (0.5 \times 14 \times .22) = 31.1 \text{ CY}$  USE 31 CY  
UNCL. EXC. (EMB.) :  $59 \times \left[ \frac{11.2 + 25}{2} \times 5 \times .61 \right] = 22.3 \text{ CY}$  USE 22 CY

I 25 / BRIARGATE PARKWAY INTERCHANGE  
STRUCTURE CROSS SECTIONS

REVISIONS	

**GENERAL NOTES**

ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE DIVISION OF HIGHWAYS, STATE OF COLORADO, APPLICABLE TO THE PROJECT. FOR CONSTRUCTION DETAILS OF STRUCTURE EXCAVATION AND BACKFILL, SEE STANDARD M-206-2. FOR STRUCTURE NUMBER INSTALLATION, SEE STANDARD S-614-12. EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213. EXPOSED SURFACES ON BRIDGE SUPERSTRUCTURE WILL BE GIVEN A CLASS 5 COLORED COATING FINISH. COLORS WILL BE NUMBERS 10075 AND 20400, AS DESCRIBED IN FEDERAL SPECIFICATION 595A, TO BE SELECTED FROM TEST PANELS SUPPLIED BY THE CONTRACTOR. ABUTMENTS AND RETAINING WALLS WILL RECEIVE A TEXTURED FINISH USING AN ARCHITECTURAL FORM LINER (AS DESCRIBED IN SPECIFICATIONS).

THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPLICE LENGTH FOR REINFORCING BARS:

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
SPLICE LENGTH FOR CLASS A CONCRETE	1'-0"	1'-3"	1'-8"	2'-3"	3'-0"	3'-10"	4'-10"	5'-11"
SPLICE LENGTH FOR CLASS D CONCRETE	1'-0"	1'-3"	1'-6"	2'-0"	2'-7"	3'-4"	4'-2"	5'-1"

THE ABOVE SPLICE LENGTHS SHALL BE INCREASED BY 20 PERCENT FOR 3-BAR BUNDLES AND 33 PERCENT FOR 4-BAR BUNDLES.

APPLIED WIND LOADS AND EARTHQUAKE LOADS WERE NOT CONSIDERED IN ANALYZING THE STRUCTURE FOR STABILITY DURING THE CONSTRUCTION STAGES.  
 E.F. = EACH FACE                      E.C. = EPOXY COATED  
 F.F. = FAR FACE                      E.W. = EACH WAY  
 N.F. = NEAR FACE                      INDICATES BAR LAP, DO NOT JOGGLE BARS

THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES, AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

**DESIGN DATA:**

CURRENT AASHTO SPECIFICATIONS  
 LIVE LOAD: AASHTO HS-20-44 AND INTERSTATE ALTERNATE  
 DEAD LOAD: ASSUMES 48 LBS. PER SQ. FT. FOR BITUMINOUS PAVEMENT  
 REINFORCED CONCRETE:  
 SUPERSTRUCTURE:  $f_s = 24,000$  psi, #4 Bars and larger  
                           Class D Concrete  $f_c = 1800$  psi,  $n=8$   
 SUBSTRUCTURE:  $f_y = 60,000$  psi  
                           Class D Concrete  $f_c = 4500$  psi,  $n=8$   
                           Class A Concrete  $f_c = 3000$  psi,  $n=9$   
 PRESTRESSED CONCRETE:  $f_s = 270,000$  psi  
    $f_c$  (SEE DETAILS)

**SUMMARY OF QUANTITIES**

ITEM	DESCRIPTION	UNIT	STRUCTURE					RETAINING WALLS		TOTAL	AS CONSTRUCTED	
			SUPER STRUCTURE	ABUT. NO. 1	PIER NO. 2	ABUT. NO. 3	APPROACH SLAB WEST	APPROACH SLAB EAST	WEST			EAST
206	STRUCTURE EXCAVATION	CU.YD.			248	377					625	625
206	STRUCTURE BACKFILL (CLASS 1)	CU.YD.		190		216			1,191	1,363	2,960	2960
206	STRUCTURE BACKFILL (CLASS 2)	CU.YD.			315						315	315
206	FILTER MATERIAL (CLASS B)	CU.YD.						60	75		135	230
403	HOT BITUMINOUS PAVEMENT (GRADING E) (HAUL & ASPH)	TON	155				10	10			175	175
503	DRILLED CAISSON (18-INCH)	LIN.FT.							1,087	1,004	2,091	2,273
503	DRILLED CAISSON (24-INCH)	LIN.FT.							1,514	2,092	3,606	3,661
503	DRILLED CAISSON (48-INCH)	LIN.FT.		204	288	250					742	740
② 509	STRUCTURAL STEEL	LB.	1,035								1,035	1,035
509	STRUCTURAL STEEL GALVINIZED	LB.	1,922									1,922
515	WATERPROOFING MEMBRANE	SQ.YD.	1,431				93	90			1,614	1,614
518	WATERSTOP (6-INCH)	LIN.FT.							35	48	83	167
③ 601	CONCRETE CLASS A (BRIDGE)	CU.YD.		196.0		230.0					426	453.6
601	CONCRETE CLASS A (WALL)	CU.YD.							417.4	472.6	890	946.7
601	CONCRETE CLASS D (BRIDGE)	CU.YD.	1,327.6		216.6		66.8	65.0			1,676	1,676
④ 602	REINFORCING STEEL	LB.	212,590	24,633	21,302	26,957	9,561	9,398	64,803	77,016	446,260	457,248
602	REINFORCING STEEL (EPOXY COATED)	LB.	88,535				2,289	2,261			93,085	93,085
① 606	BRIDGE RAIL TYPE 4 (SPECIAL)	LIN.FT.	444				29	28			501	725
610	MEDIAN COVER (PAH. CONC.)	S.F.	3,250									3,250
613	RECESSED LIGHT	EA.	18				6	6			30	30
613	LUMINAIRE-HPS (WALL TYPE)(12,000 LUMEN)	EA.			2						2	2
613	1 INCH ELECTRICAL CONDUIT	LIN.FT.	527				33	32			592	635
613	4 INCH ELECTRICAL CONDUIT	LIN.FT.	509								509	614
613	WIRING	L.S.	.1								.1	.1
618	PRESTRESSING STEEL WIRE OR STRAND	LB.	54,950								54,950	54,950
619	6 INCH BLACK STEEL PIPE	LIN.FT.	255								255	255

- ① INCLUDES 71.2 CU. YDS. OF CONCRETE AND 9760 LBS. OF REINFORCING
- ② STRUCTURAL STEEL FOR PIPE SLEEVES
- ③ INCLUDES 158 CU. YDS. FOR BARRIER BETWEEN PIER COLUMNS.
- ④ INCLUDES 767 LBS. FOR BARRIER BETWEEN PIER COLUMNS.

**INDEX OF DRAWINGS**

DWG. NO.	DESCRIPTION
B1	GENERAL INFORMATION-SUMMARY OF QUANTITIES
B2	GENERAL LAYOUT
B3	ENGINEERING GEOLOGY
B4	FOUNDATION PLAN-BRIDGE
B5	GEOMETRIC PLAN-RETAINING WALLS
B6	CONSTRUCTION LAYOUT
B7	ABUTMENT 1 DETAILS
B8	ABUTMENT 1 REINFORCING
B9	ABUTMENT 3 DETAILS
B10	ABUTMENT 3 REINFORCING
B11	MISCELLANEOUS ABUTMENT DETAILS
B12	PIER 2 DETAILS
B13	PIER 2 DETAILS
B14	SUPERSTRUCTURE DETAILS
B15	SUPERSTRUCTURE DETAILS
B16	SUPERSTRUCTURE DETAILS
B17	SUPERSTRUCTURE DETAILS
B18	BOX GIRDER DETAILS
B19	BENCH MARK
B20	RETAINING WALL ABUT. 1 NORTH OUTSIDE
B21	RETAINING WALL ABUT. 1 SOUTH INSIDE
B22	ABUT. 1 RETAINING WALL DETAILS
B23	RETAINING WALL ABUT. 3 SOUTH INSIDE
B24	RETAINING WALL ABUT. 3 NORTH OUTSIDE
B25	ABUT. 3 RETAINING WALL DETAILS
B26	RETAINING WALL DETAILS
B27	RETAINING WALL DETAILS-SHORING DETAILS
B28	BRIDGE DECK ELEVATIONS
B29	BRIDGE DECK ELEVATIONS
B30	ROADWAY APPROACHES

**BRIDGE DESCRIPTION**

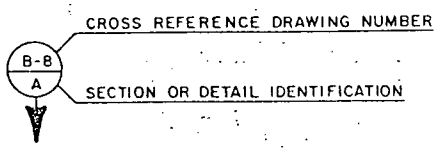
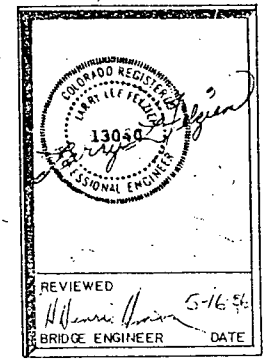
2-SPANS (110'-0", 110'-0") CONTINUOUS CONCRETE BOX GIRDER BRIDGE (POST-TENSIONED)  
 BRIARGATE PARKWAY OVER I 25.  
 35'-0" ROADWAY CURB TO CURB NORTH SIDE.  
 23'-0" ROADWAY CURB TO CURB SOUTH SIDE.  
 14'-0" MEDIAN.  
 ABUT. 1 83°56'56.3" SKEW }  
 PIER. 2 83°56'56.3" SKEW } TO TANGENT AT  
 ABUT. 3 83°56'56.3" SKEW } STA. 537+50.78  
 1'-9" BRIDGE RAIL LEFT & RIGHT SIDES.

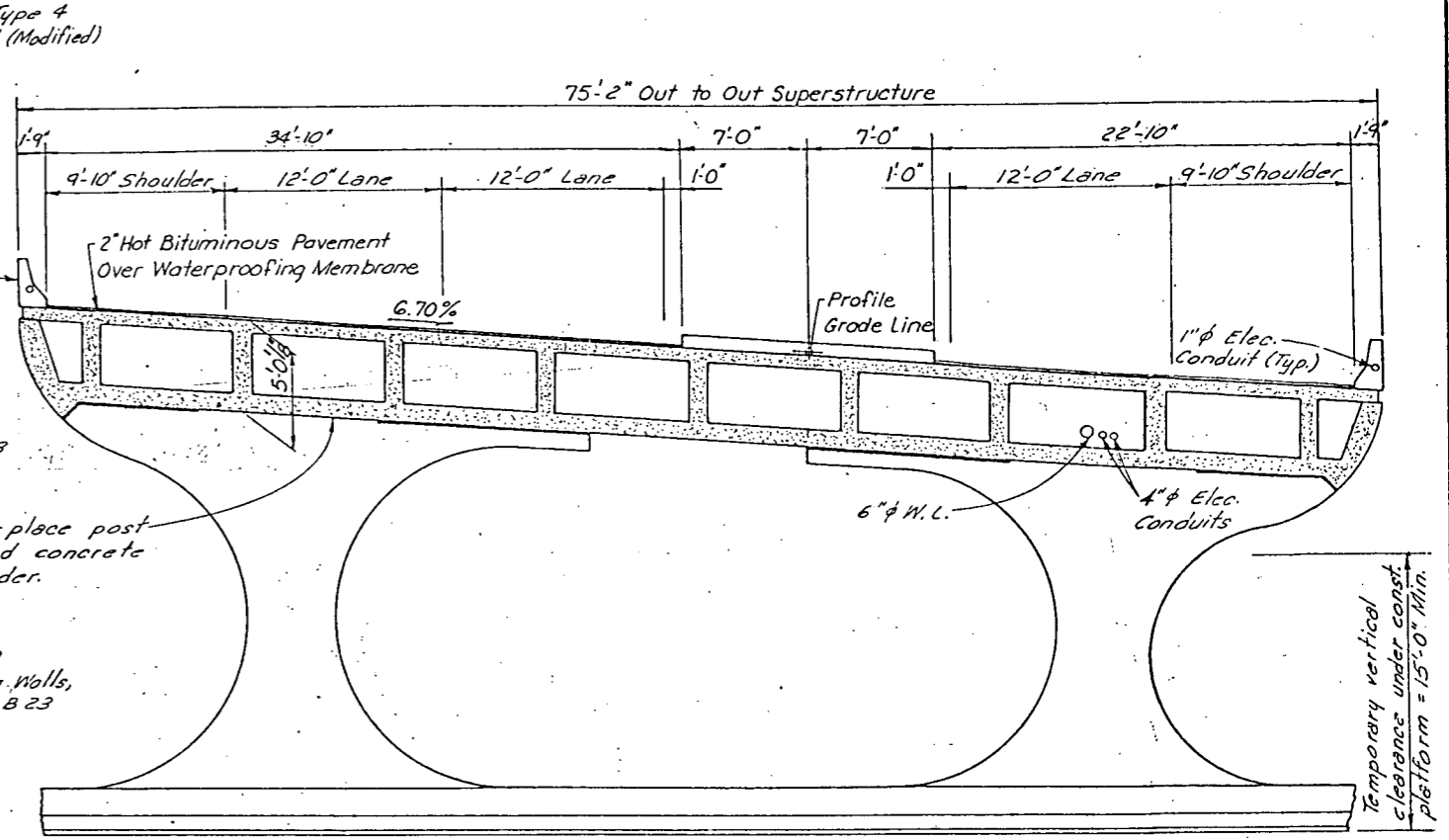
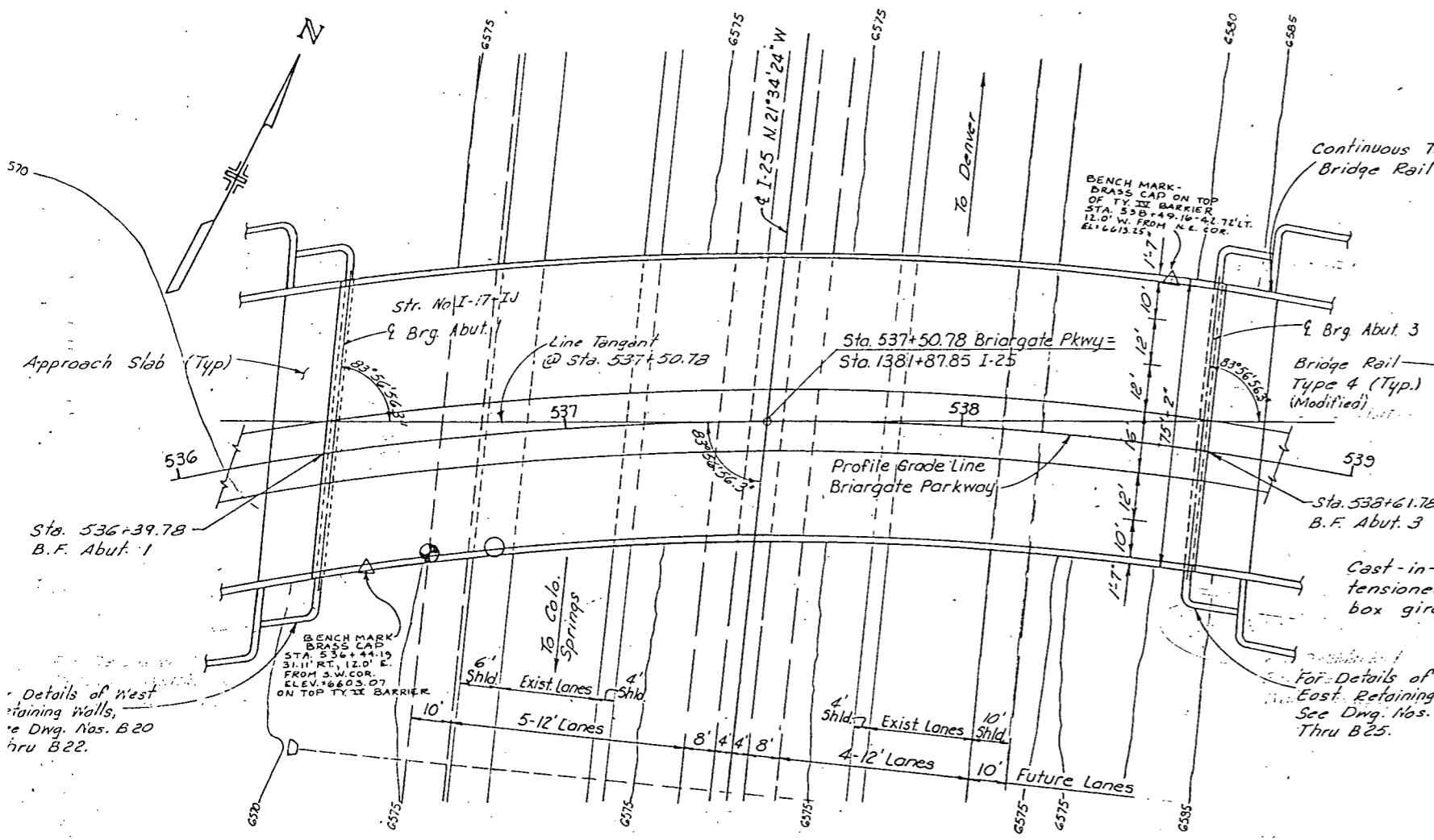
**URS ENGINEERS-DENVER**

**DIVISION OF HIGHWAYS**

**GENERAL INFORMATION SUMMARY OF QUANTITIES**

Designer R. BORDEN	Structure Numbers I-17-IJ
Detailer T. RICK	of 30 Drawings
Drawing Number B 1	





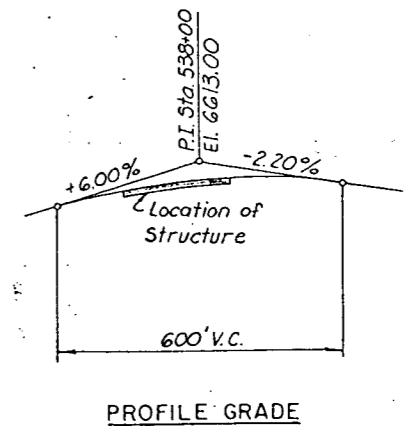
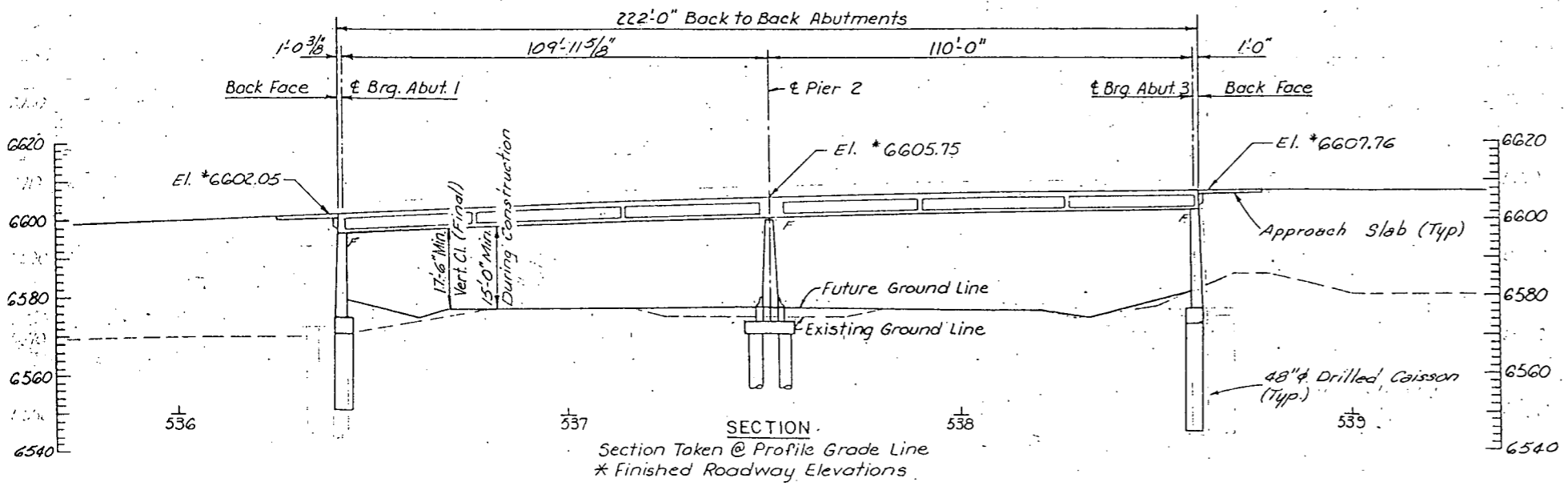
**PLAN**

- ⊙ Indicates Point of Minimum Final Vertical Clearance
- Indicates Point of Minimum Clearance During Construction.

**Curve Data**

$\Delta c = 150^{\circ}18'45''$	$T_c = 3012.92'$
$\theta_s = 7^{\circ}52'30''$	$L_c = 2094.85'$
$L_s = 225'$	$R_c = 798.51'$
$L_t = 150.15'$	$S_t = 75.14'$

**TYPICAL SECTION**



**SECTION**  
 Section Taken @ Profile Grade Line  
 \* Finished Roadway Elevations.

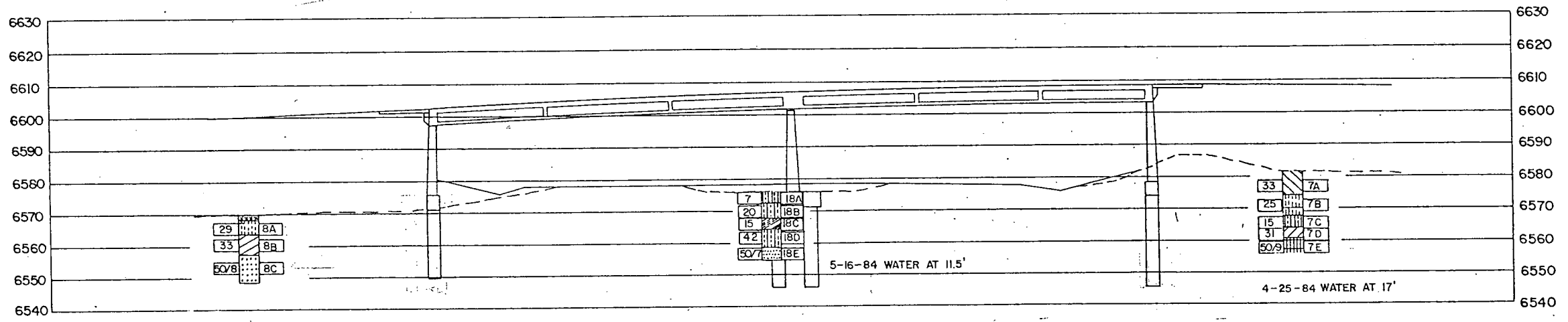
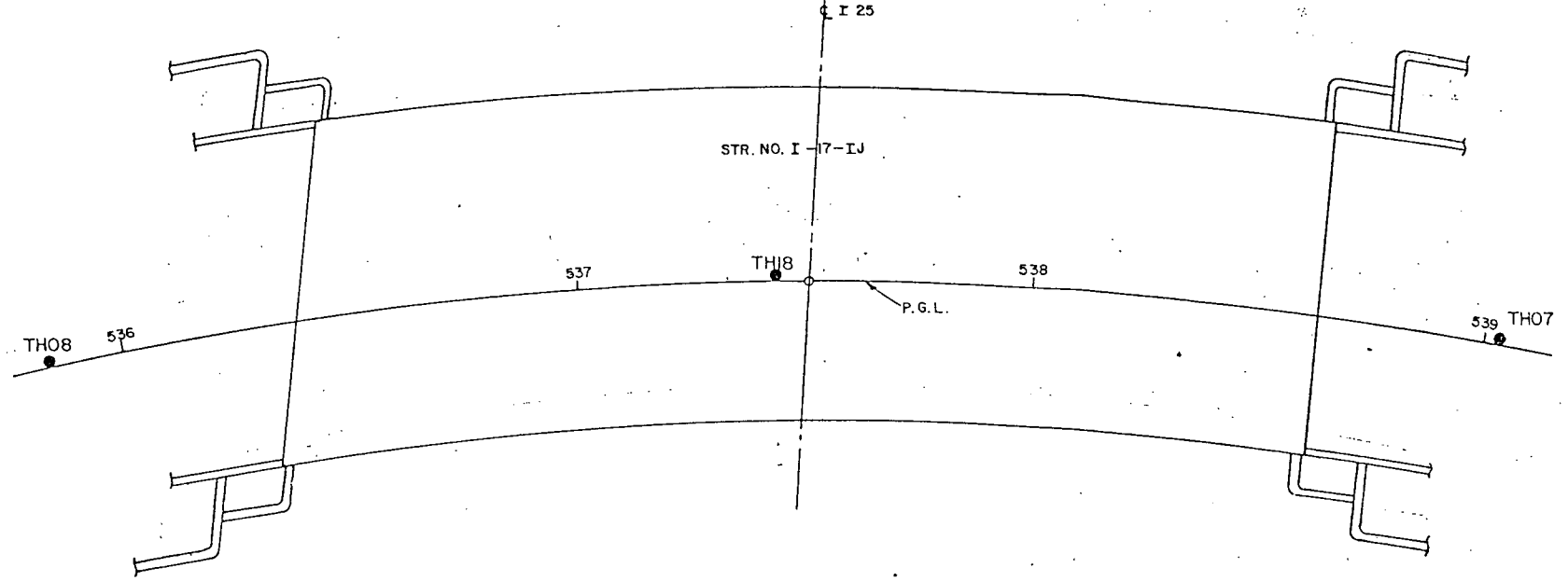
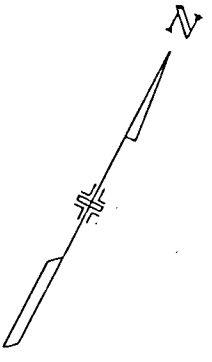
Live Loading = HS 20-44 And Interstate Alternate

**GENERAL LAYOUT**

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
		REB	B2	
		DRAWN BY	OF	SHEETS
		BMH	30	
		CHECKED BY		
		LLF		



REVISIONS	



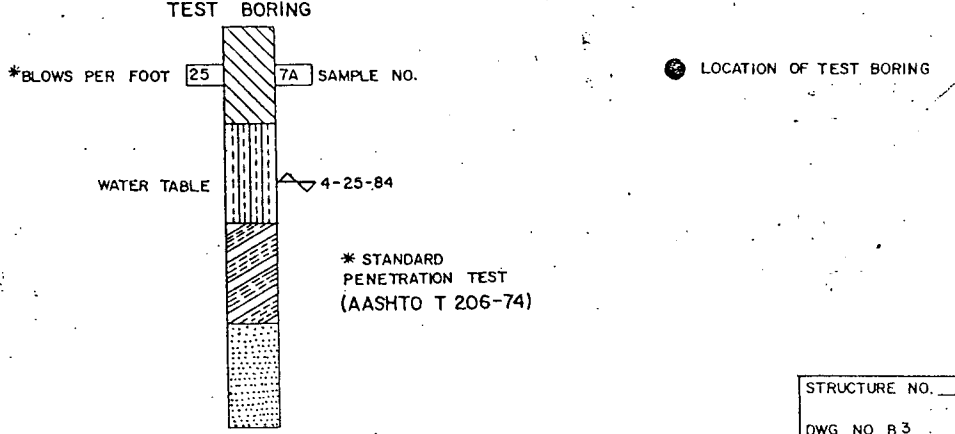
SUMMARY OF TEST RESULTS

SAMPLE NO.	DEPTH	CLASSIFICATION	GRADING ANALYSIS				ATTERBERG LIMITS			WATER CONTENT %	WET UNIT WEIGHT T P.C.F.	UNCONFINED STRENGTH Qu T.S.F.	TRIAXEL SHEAR STRENGTH		DIA. OF SAMPLE (INCHES)
			CORPS OF ENGRS OR VISUAL	AASHTO	PERCENT		LIQUID LIMIT LL - %	PLASTIC LIMIT PL - %	PLAS INDEX PI - %				Ø	C P.S.I.	
					GRAVEL	COARSE SAND									
7A	0.0' TO 7.5'	SILTY SAND	A-1-b						9.2						
7B	7.5' TO 14.0'	GRAVELLY SAND	A-1-b						4.6						
7C	14.0' TO 17.5'	CLAYEY SAND	A-2-4			25.9	19.3	6.6	10.4						
7D	17.5' TO 21.0'	SANDY CLAY	A-6						14.8						
7E	21.0' TO 24.75'	SILTSTONE							13.1						
8A	1.5' TO 6.0'	GRAVELLY SAND	A-1-b						3.3						
8B	6.0' TO 12.0'	SANDY CLAY	A-6						18.3						
8C	12.0' TO 22.0'	SANDSTONE							9.7						
									21.7						
18A	0.0' TO 3.5'	SILTY SAND	A-4												
18B	3.5' TO 8.0'	GRAVELLY SAND	A-1-b						6.3						
18C	8.0' TO 11.0'	CLAYEY SAND	A-2-4												
18D	11.0' TO 12.0'	GRAVELLY SAND	A-3												
18E	17.0' TO 20.0'	SANDSTONE													

TYPE OF MATERIAL

- TOPSOIL, SILTY CLAYEY SAND
- SILTY SAND
- GRAVELLY SAND
- SANDY CLAY
- CLAYSTONE/SANDSTONE
- SILTY SAND, CLAYEY SAND
- WEATHERED SILTSTONE
- GRAVELLY SAND, SILTY SAND
- CLAYEY SAND

LEGEND



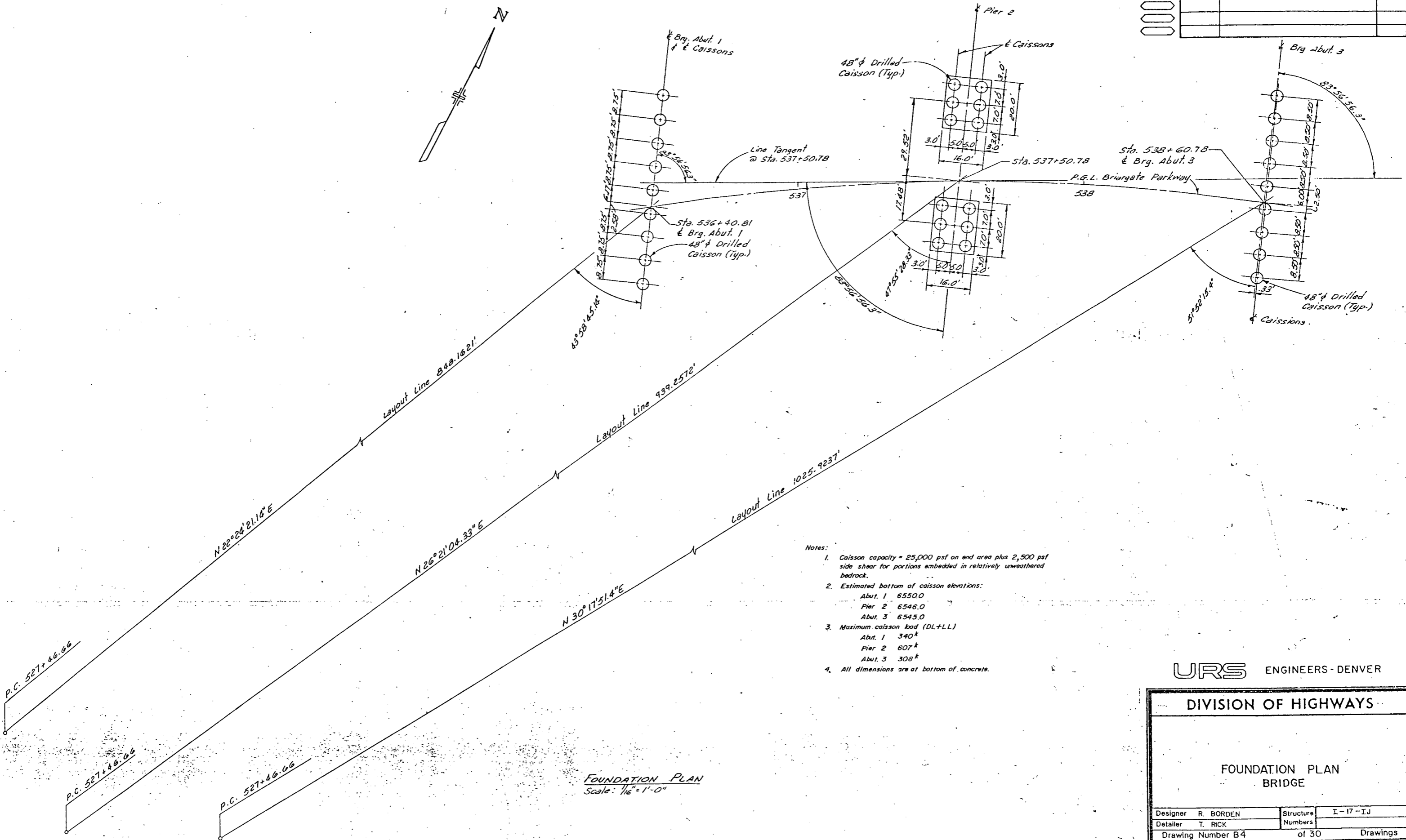
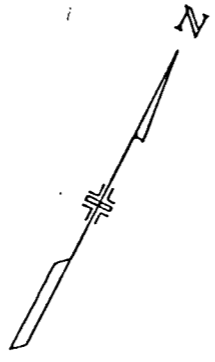
DIVISION OF HIGHWAYS

ENGINEERING GEOLOGY

Geologist  
 Drawn by  
 Checked by  
 Date

CHECKED BY L.L.F. / 7-85  
 T.A.R. 3-85  
 DRAWN BY

REVISIONS	



- Notes:
- Caisson capacity = 25,000 psf on end area plus 2,500 psf side shear for portions embedded in relatively unweathered bedrock.
  - Estimated bottom of caisson elevations:  
 Abut. 1 6550.0  
 Pier 2 6546.0  
 Abut. 3 6545.0
  - Maximum caisson load (DL+LL)  
 Abut. 1 340 k  
 Pier 2 607 k  
 Abut. 3 308 k
  - All dimensions are at bottom of concrete.

FOUNDATION PLAN  
 Scale: 1/16" = 1'-0"

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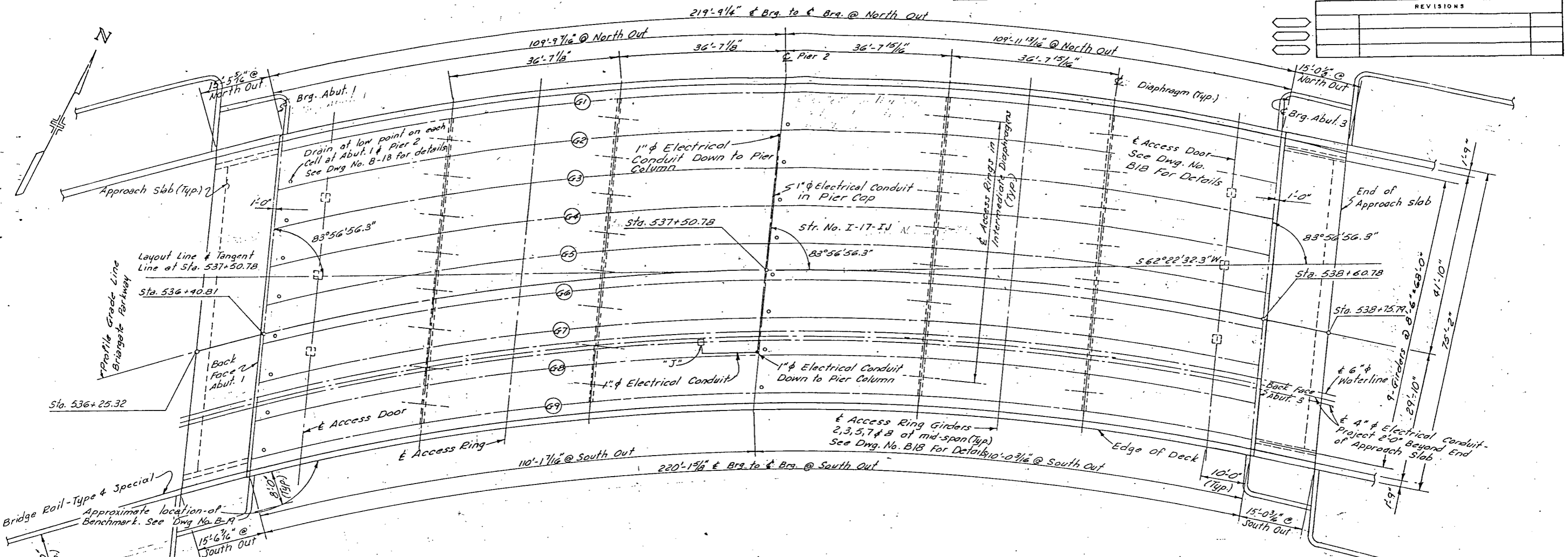
<b>DIVISION OF HIGHWAYS</b>	
<b>FOUNDATION PLAN BRIDGE</b>	
Designer R. BORDEN	Structure I-17-IJ
Detailer T. RICK	Numbers
Drawing Number B4	of 30 Drawings

Revision Dates	(Preliminary Stage Only)

T.A.R. 3-B5 CHECKED BY L.L.F. 7-65  
 DETAILED BY



REVISIONS	



**CONSTRUCTION LAYOUT**  
 "J" = 6" x 6" x 4" Junction Box  
 Flush with Bottom of Slab.  
 Drain for Interior Condensation.

- NOTES:
- For details of intermediate diaphragms, see dwg. nos. B15 and B18.
  - For details of pier diaphragms, see dwg. no. B13.

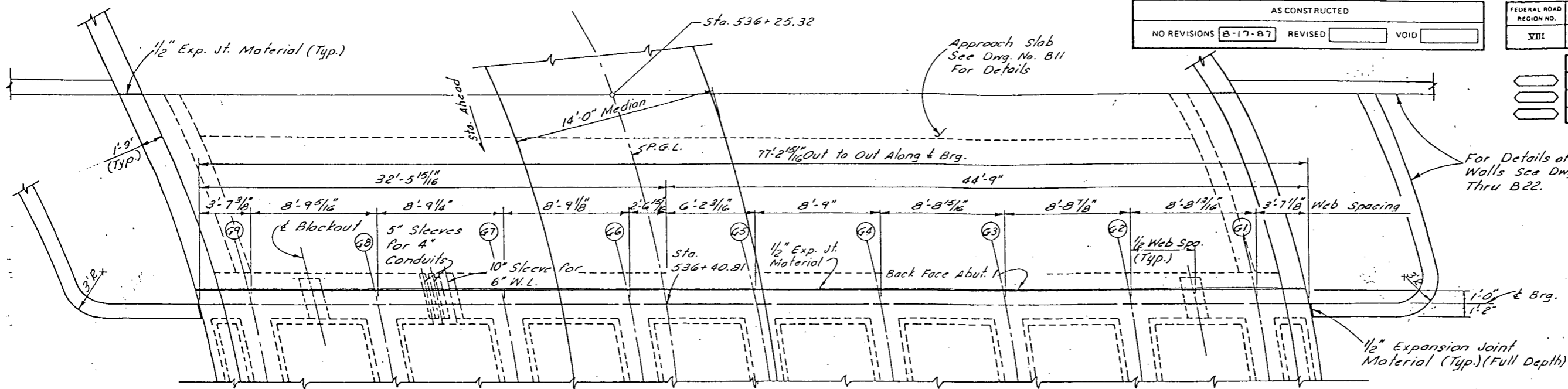
**URS ENGINEERS - DENVER**

<b>DIVISION OF HIGHWAYS</b>	
<b>CONSTRUCTION LAYOUT</b>	
Designer	R. BORDEN
Detailer	T. RICK
Drawing Number	B6
Structure Numbers	I-17-IJ
of 30 Drawings	

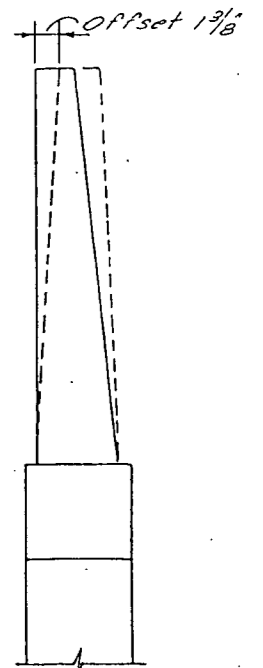
AS CONSTRUCTED  
 NO REVISIONS  B-17-B7 REVISED  VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC04-0025-19	45	

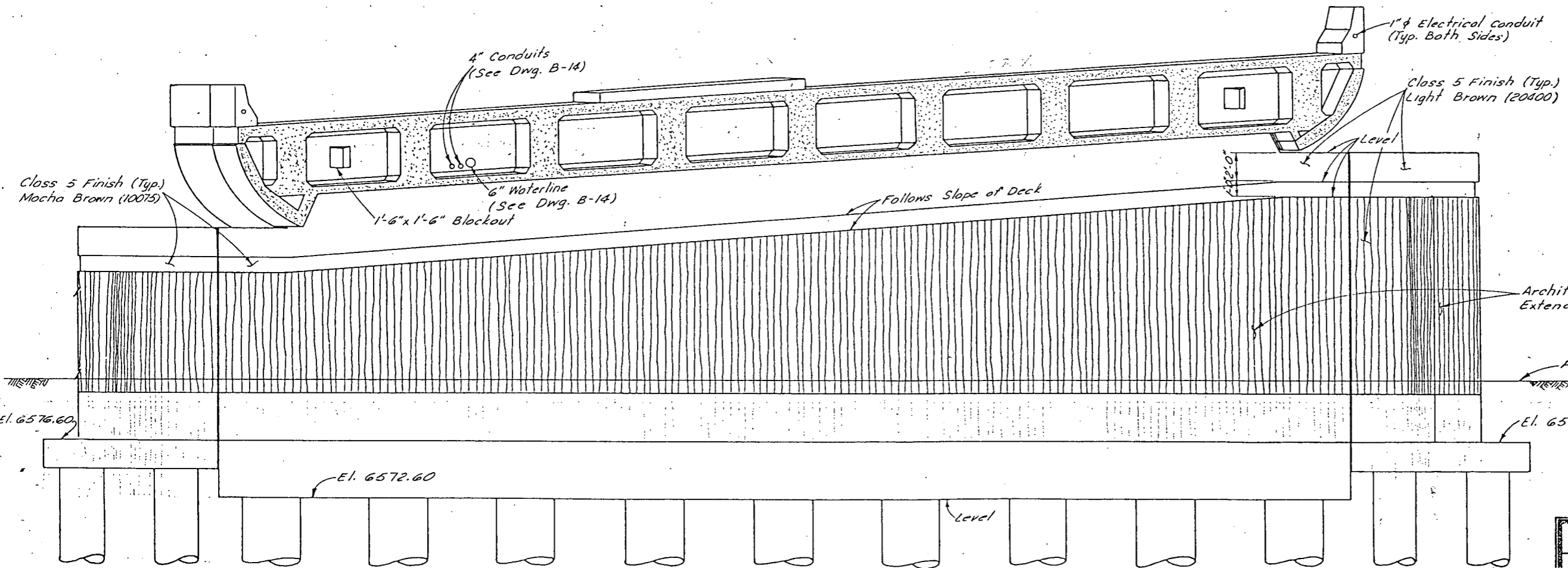
REVISIONS			



PLAN



**ABUT. WALL OFFSET**  
 Build abutment wall with offset indicated, and backfill before placing superstructure formwork.



ELEVATION

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**DIVISION OF HIGHWAYS**

**ABUTMENT 1 DETAILS**

Designer R. BORDEN	Structure I-17-IJ
Detailer T. RICK	Numbers
Drawing Number B7	of 30 Drawings

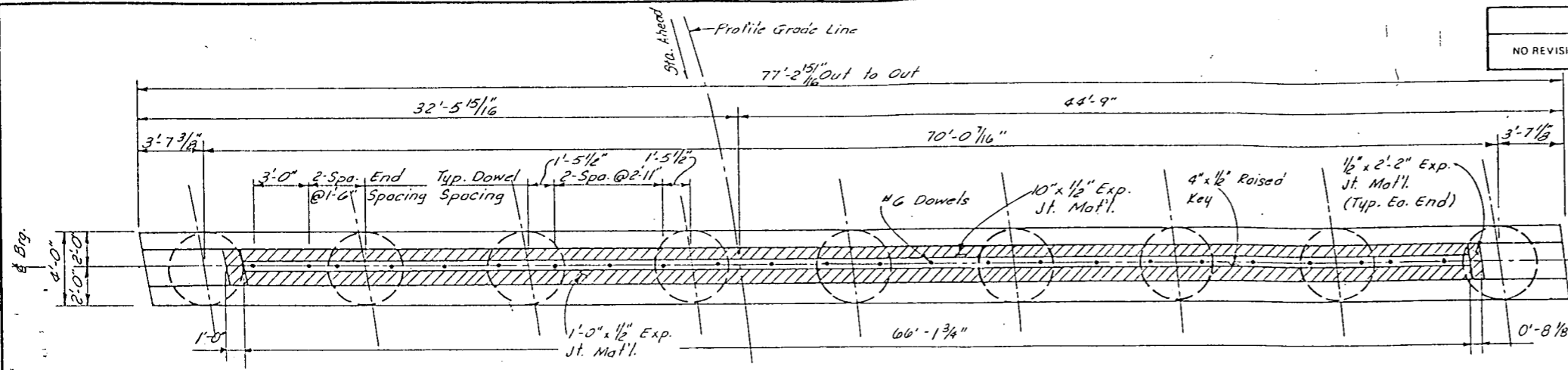
Revision Dates (Preliminary Stage Only)

CHECKED BY L.L.F. 7-85  
 T.A.R. 3-85  
 DETAILED BY

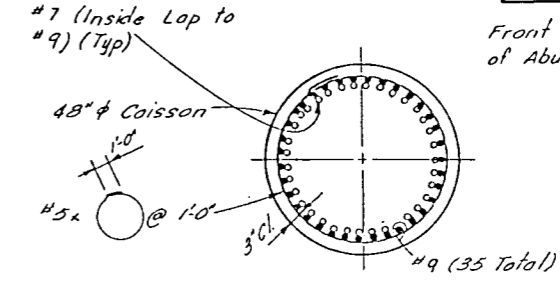
AS CONSTRUCTED		
NO REVISIONS	B-17-87	VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC04-0025-19	46	

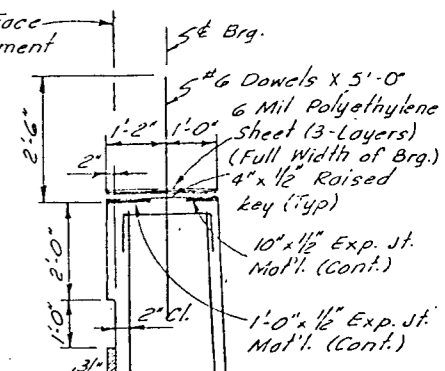
REVISIONS	



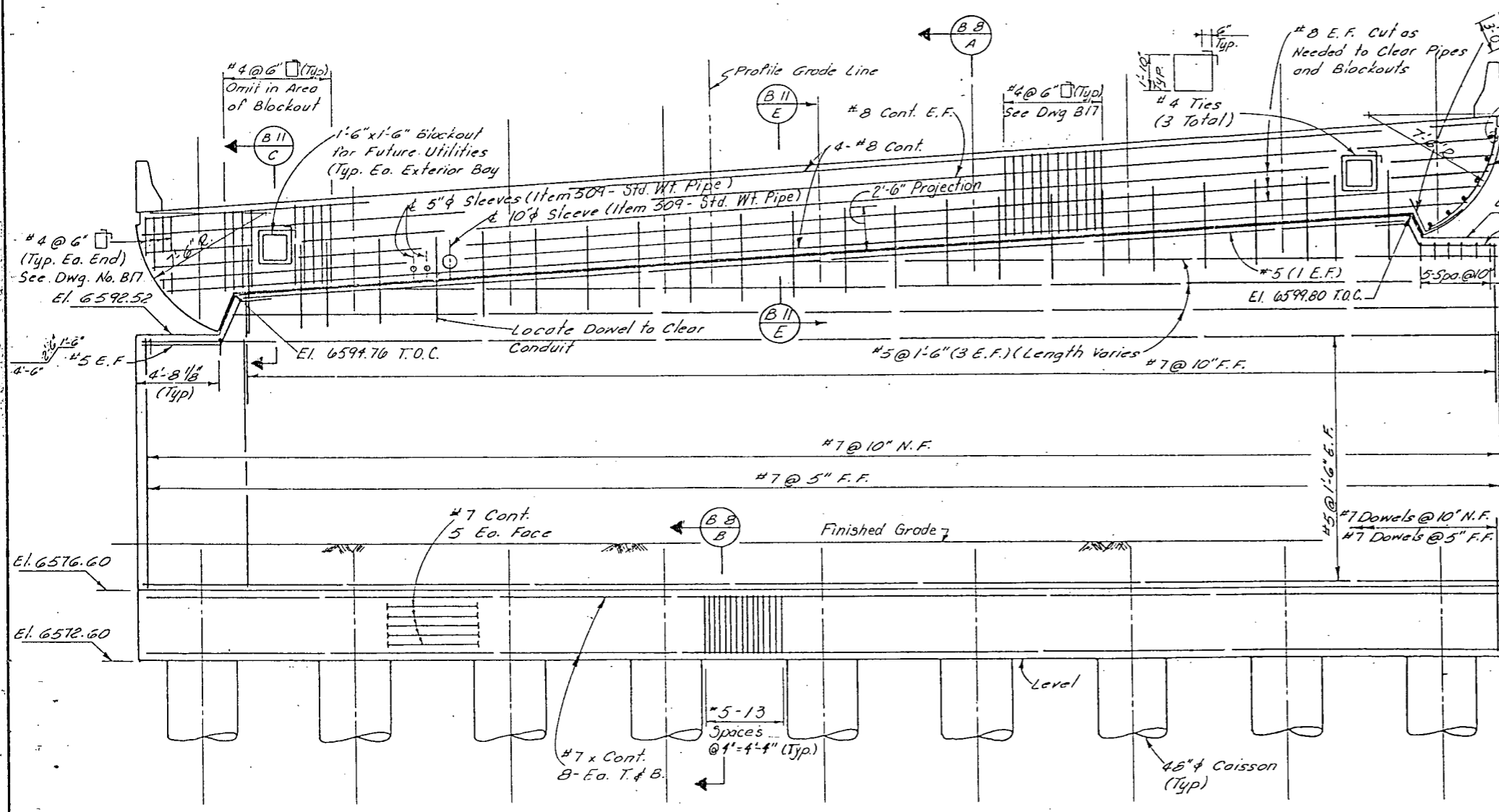
PLAN



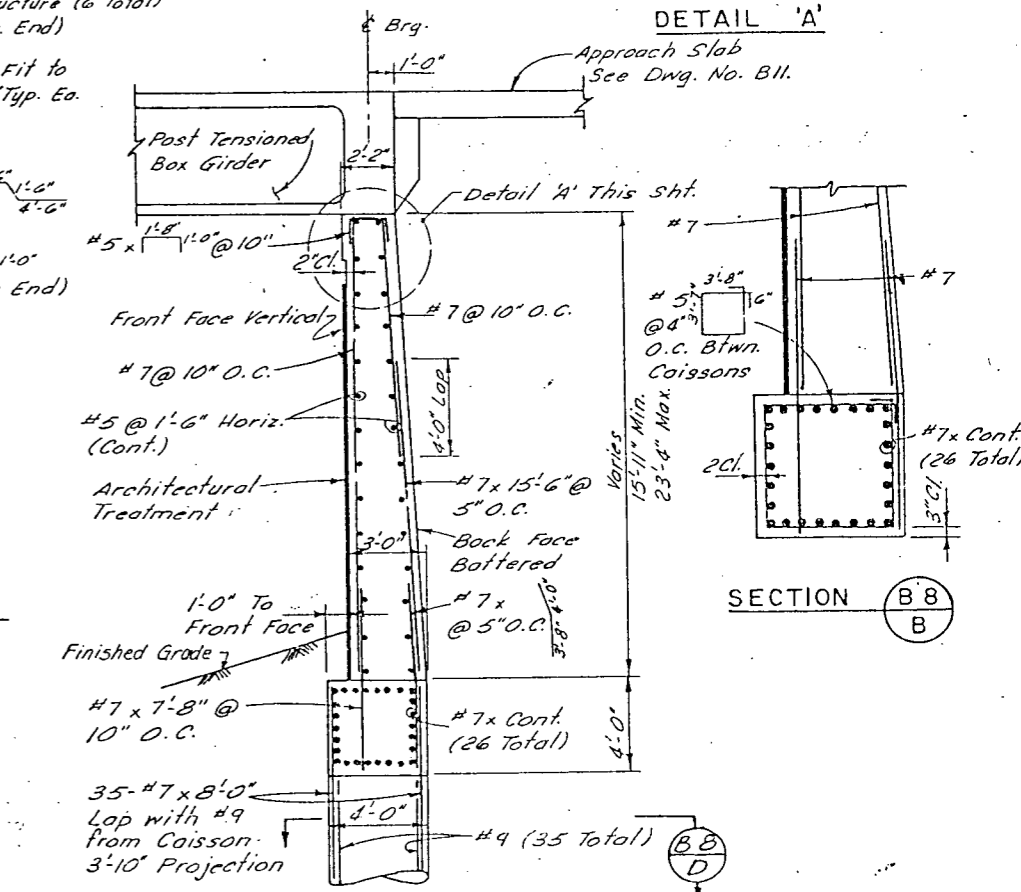
SECTION B B D



DETAIL 'A'



SECTION



SECTION B B A

SECTION B B B

NOTE: Class D concrete may be substituted for Class A concrete in abutment walls, at the Contractor's option.

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**DIVISION OF HIGHWAYS**

**ABUTMENT I REINFORCING**

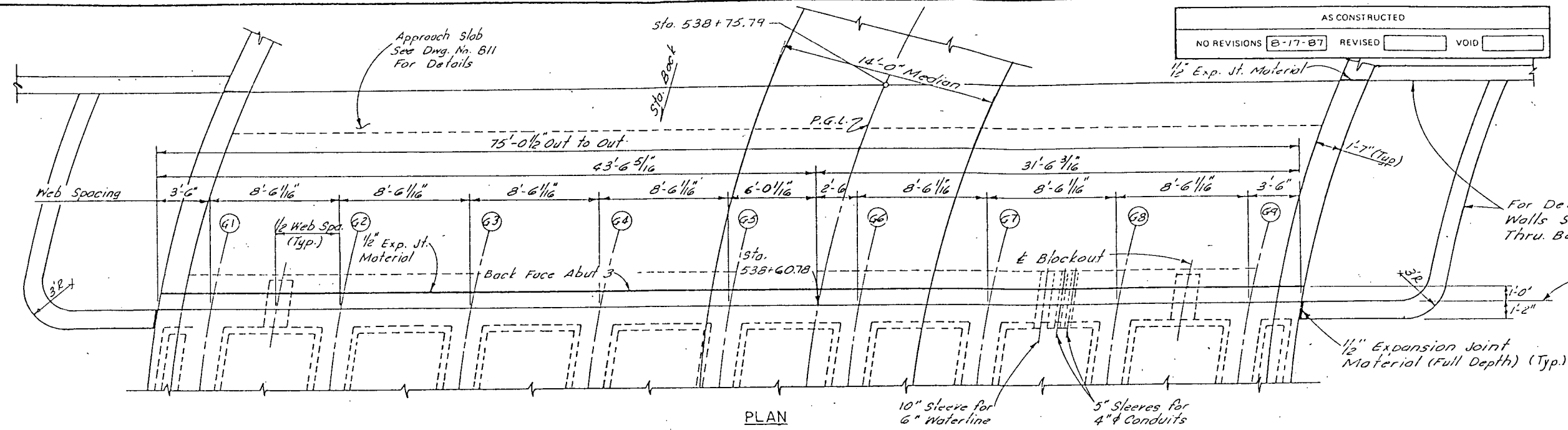
Designer R. BORDEN	Structure Numbers I-17-IJ
Deteller T. RICK	of 30 Drawings
Drawing Number B 8	

CHECKED BY: T.A.R. 3-85, 17-85

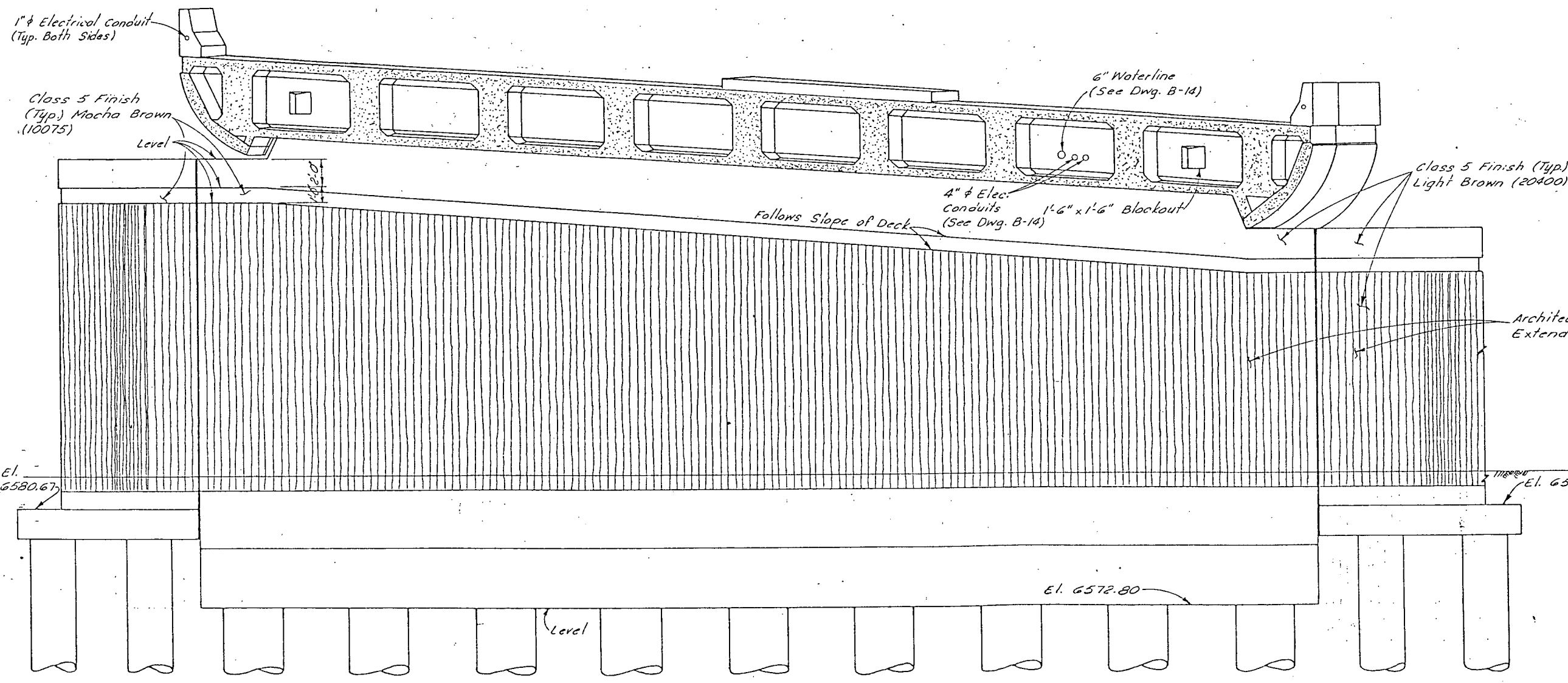
AS CONSTRUCTED  
 NO REVISIONS  B-17-B7 REVISED  VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC04-0025-19	47	

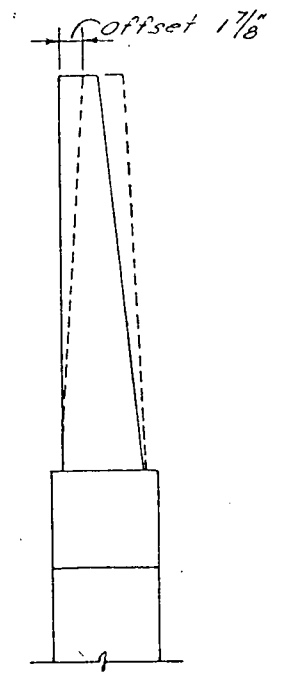
REVISIONS	



PLAN



ELEVATION



**ABUT. WALL OFFSET**  
 Build abutment wall with offset indicated, and backfill before placing superstructure formwork.

URS ENGINEERS - DENVER

DIVISION OF HIGHWAYS

ABUTMENT 3  
 DETAILS

Designer R. BORDEN	Structure I-17-IJ
Detailer T. RICK	Numbers
Drawing Number B 9	of 30 Drawings

Revision Dates (Preliminary Stage Only)

CHECKED BY: L.L.F. 17-85  
 DESIGNED BY: TAR 13-85

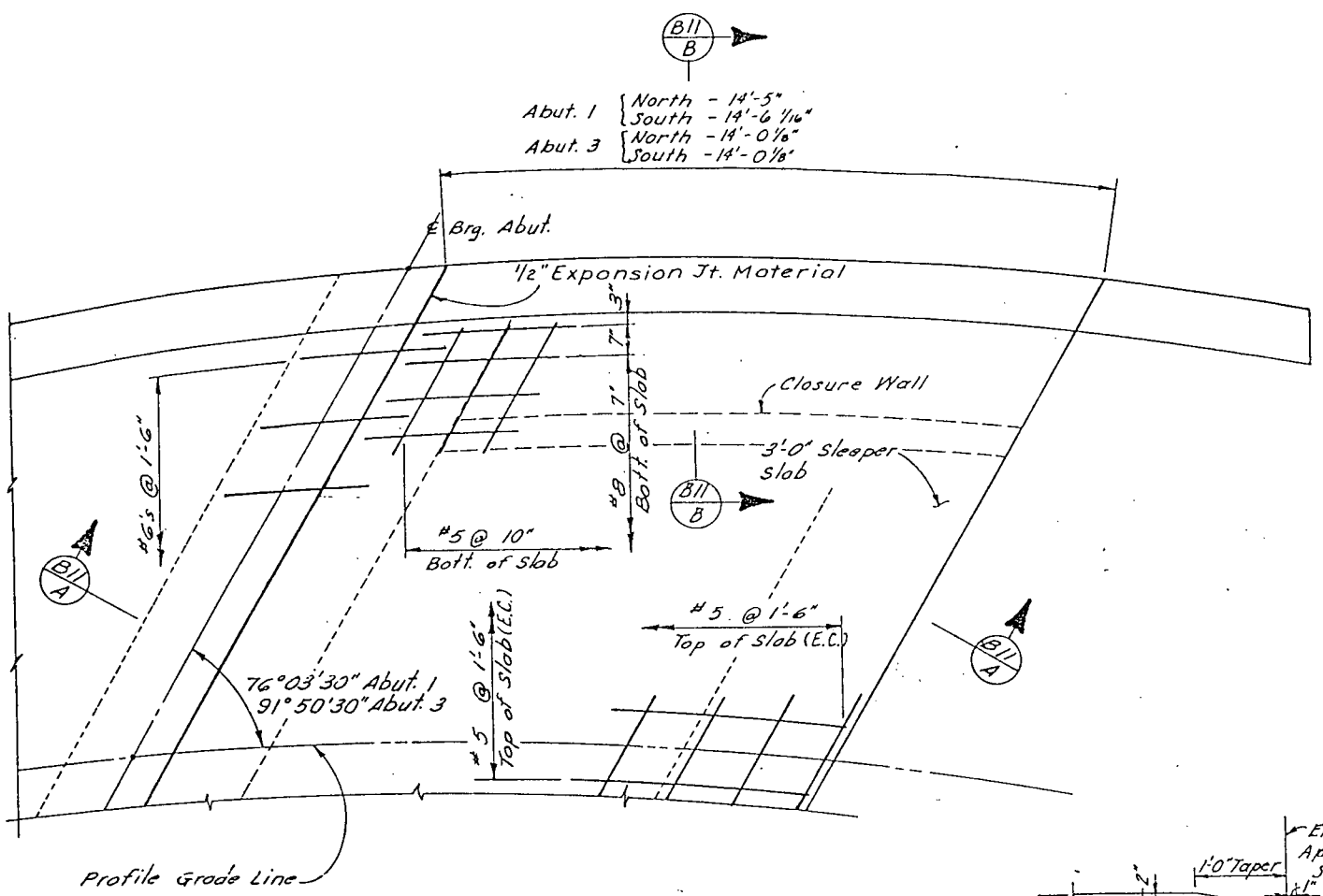




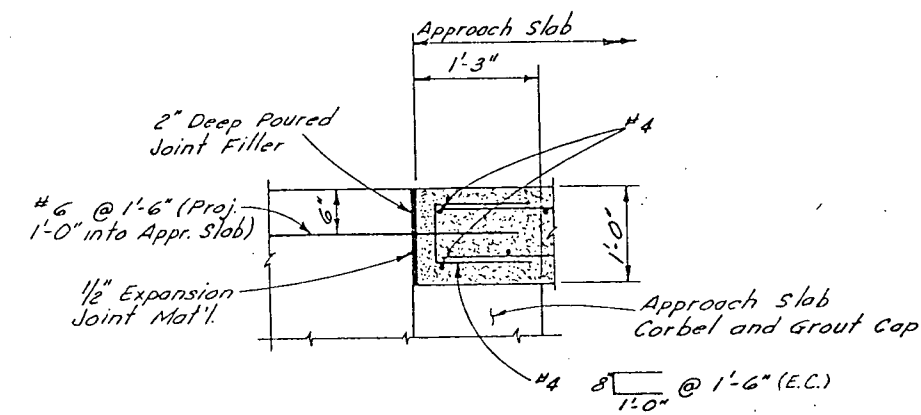
AS CONSTRUCTED		
NO REVISIONS	8-17-87	REVISED
		VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC04-0025-19	49	

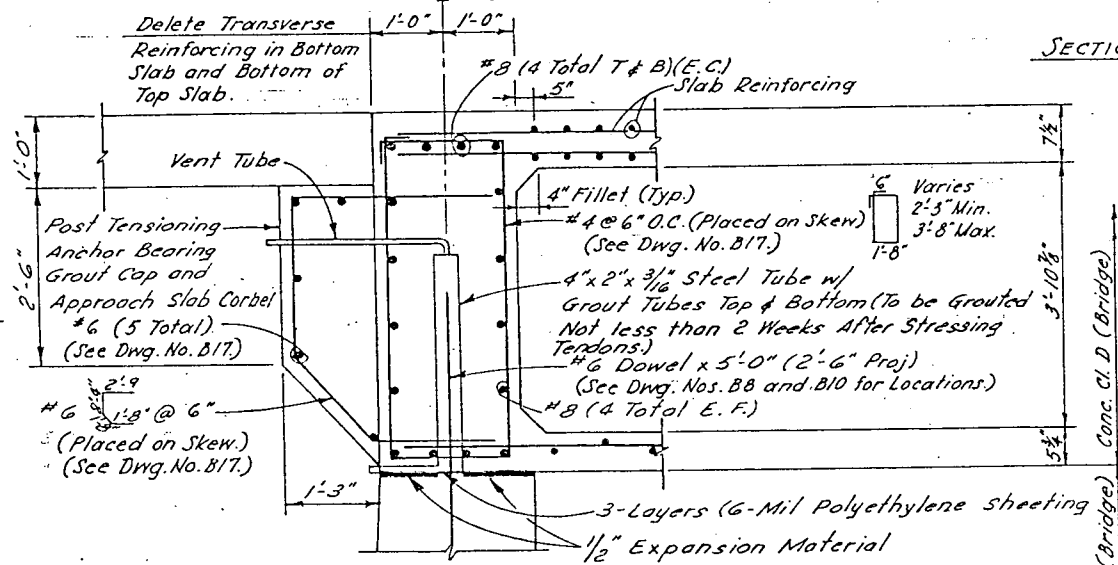
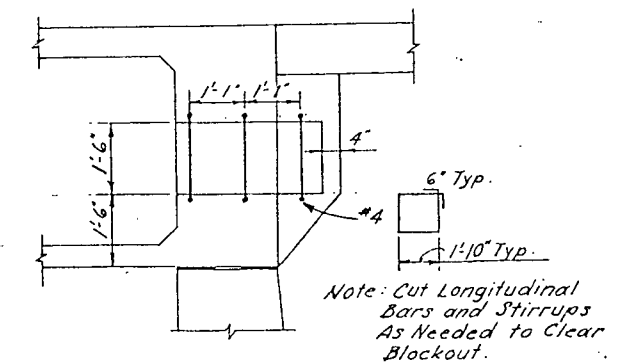
REVISIONS	



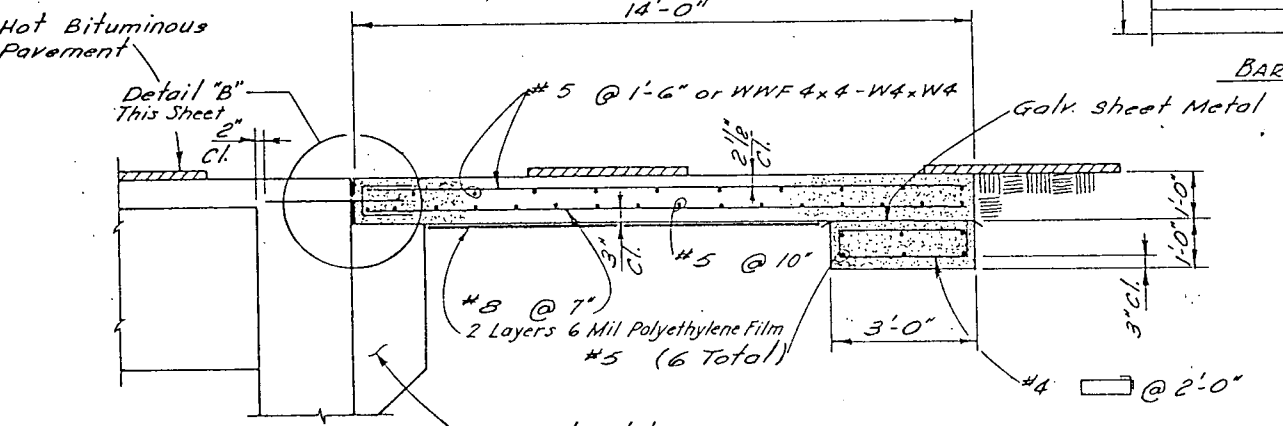
PLAN APPROACH SLAB



DETAIL "B"



SECTION BB B10



SECTION B11 A

**GENERAL NOTES:**

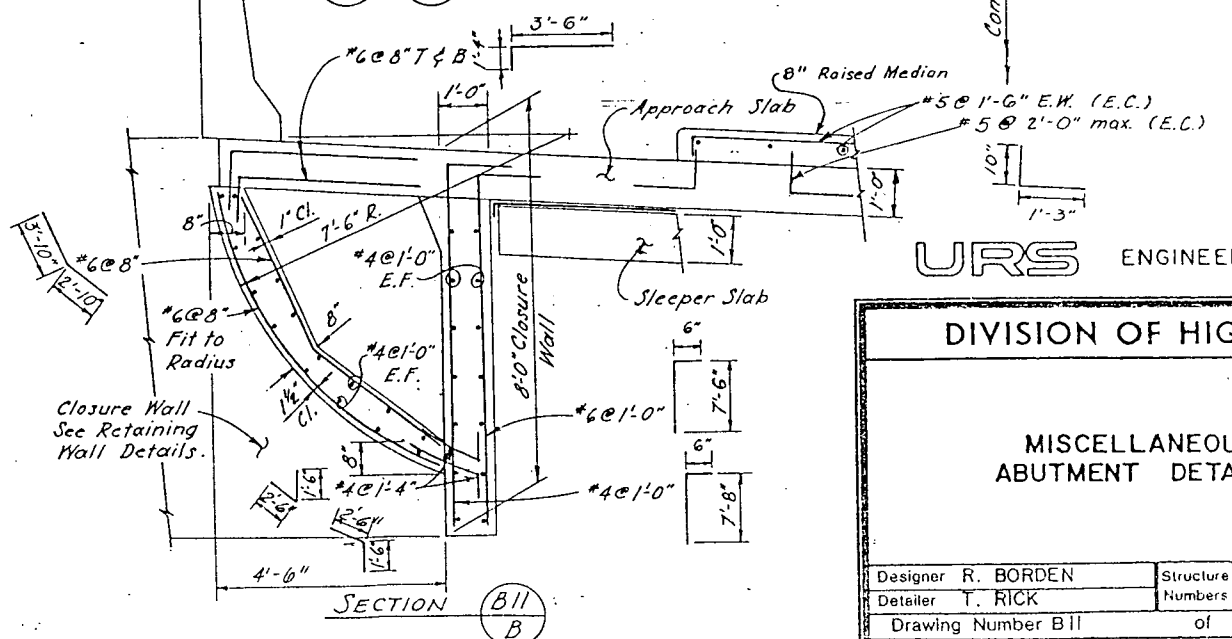
Concrete for approach slab may be Class A or Class D.

1/2" Expansion joint material shall meet AASHTO Specification M 213.

All concrete in abutments to be Class A (Bridge).

See Dwg. No. B 27 for fascia construction sequence.

Closure wall reinforcement to stop at B.F. Abutment.



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**DIVISION OF HIGHWAYS**

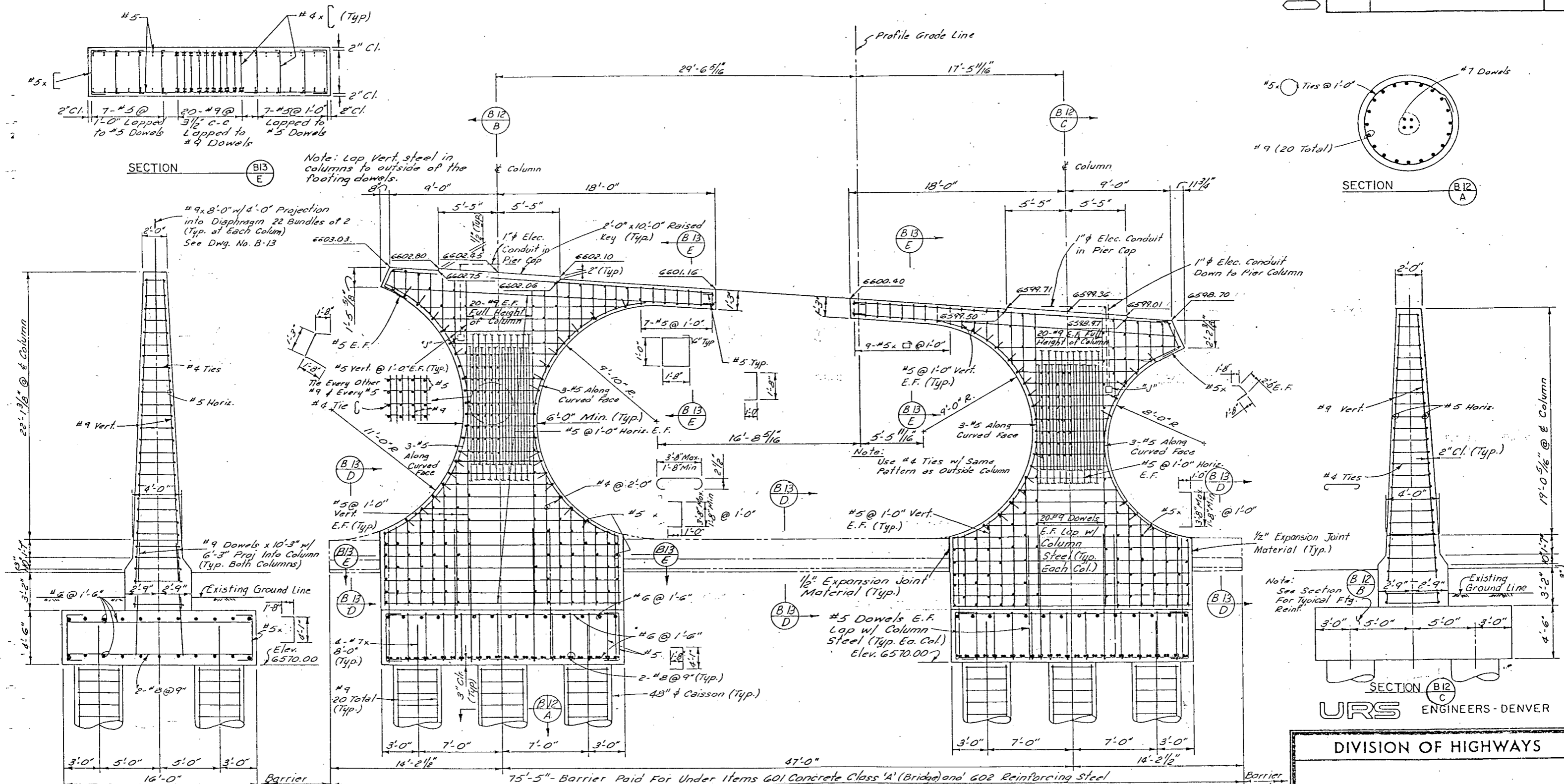
**MISCELLANEOUS ABUTMENT DETAILS**

Designer R. BORDEN	Structure I-17-IJ
Detailer T. RICK	Numbers
Drawing Number B11	of 30 Drawings

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID
5-17-87		

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC04-0025-19	50	

REVISIONS	



SECTION B12/B

ELEVATION

SECTION B12/C

"J" = 6" x 6" x 4" Junction Box Flush with Face of Column Drain for Interior Condensation.

- NOTES:
- All Exposed Surfaces of Pier shall be given a Class 5 Colored Coating Finish (NO. 20400)
  - All Concrete in Pier to be Class D (Bridge)

URS ENGINEERS - DENVER

DIVISION OF HIGHWAYS

PIER 2 DETAILS

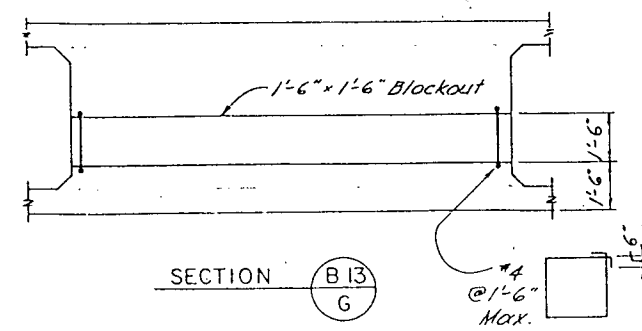
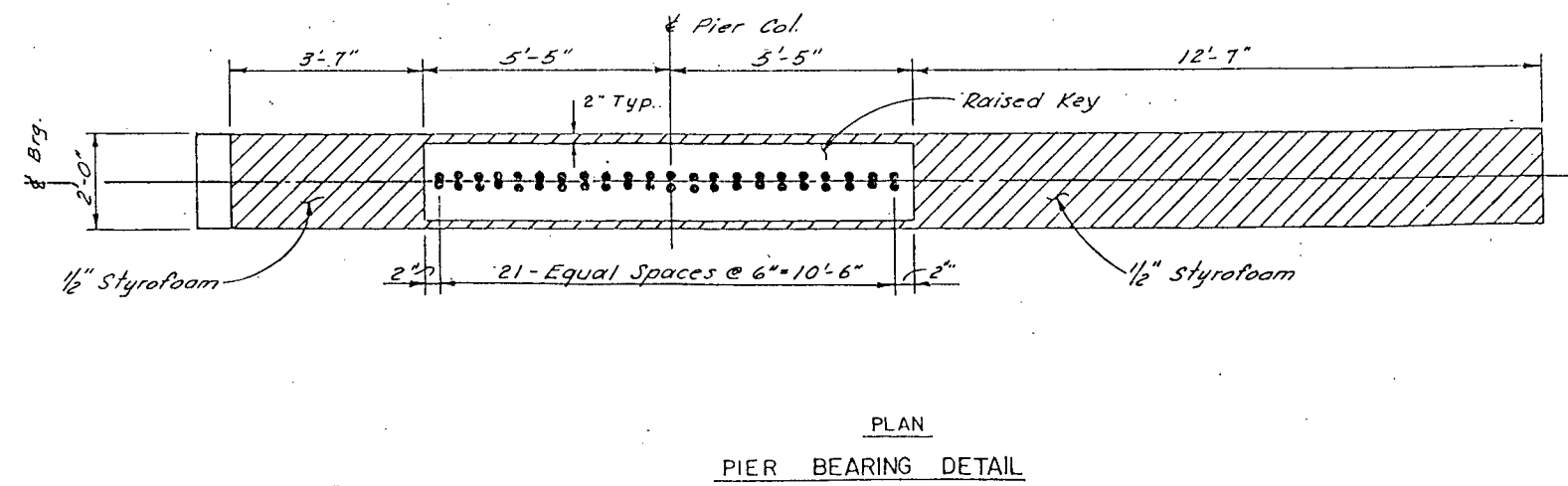
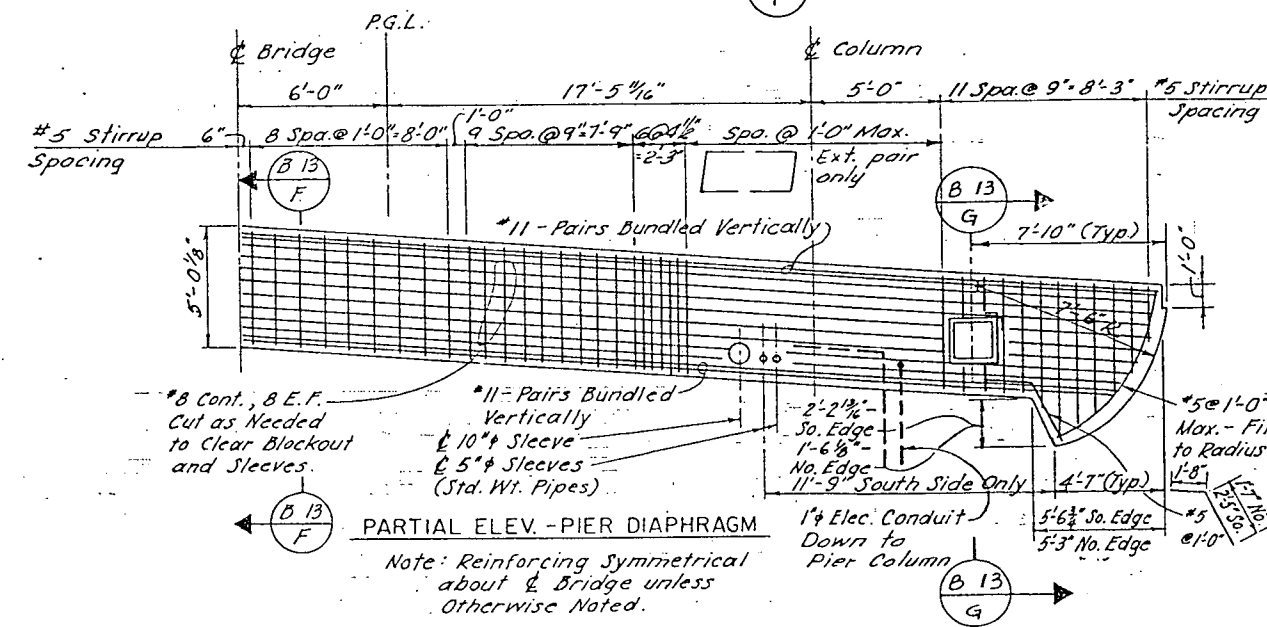
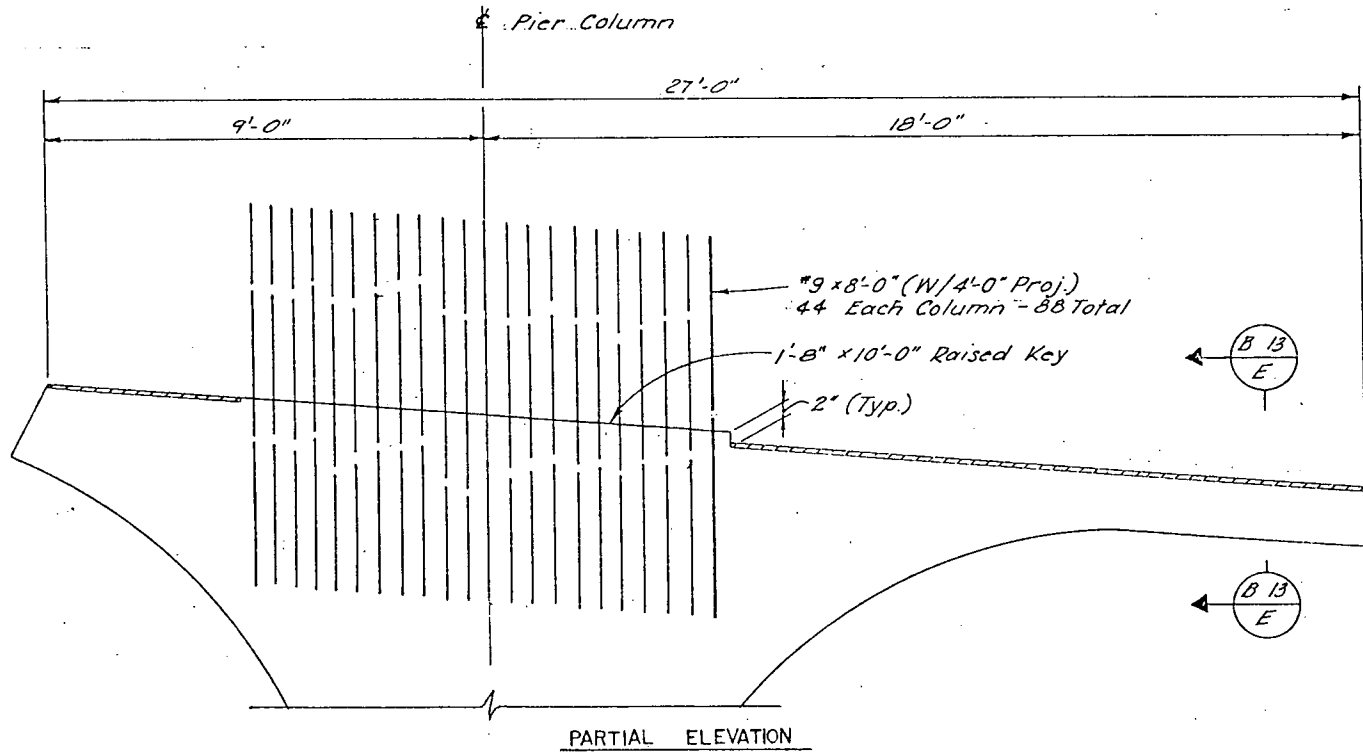
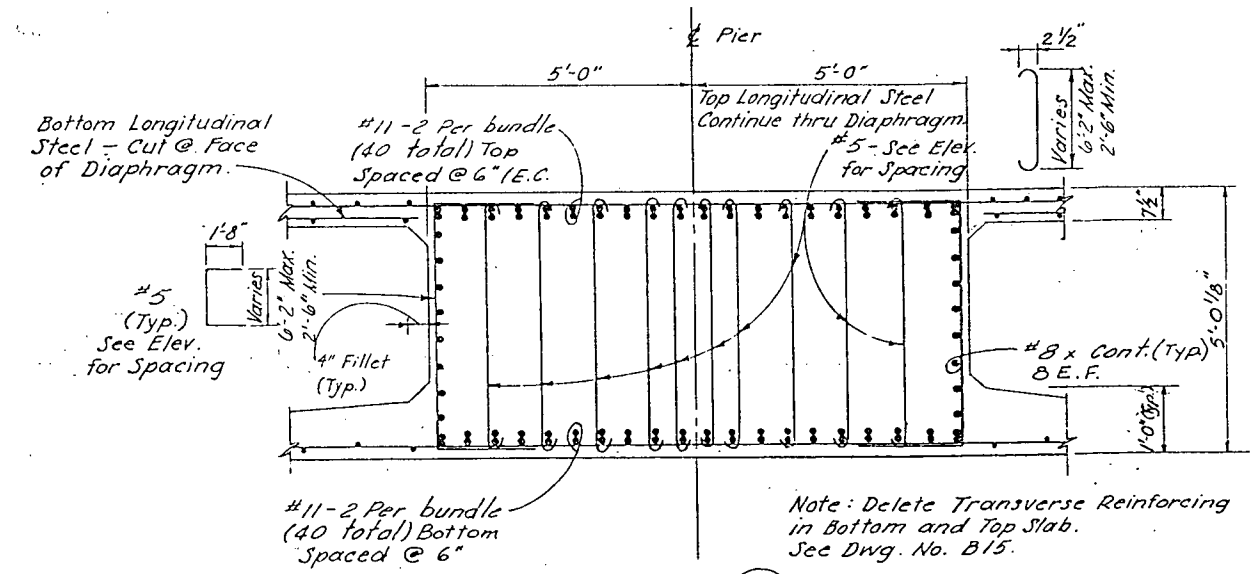
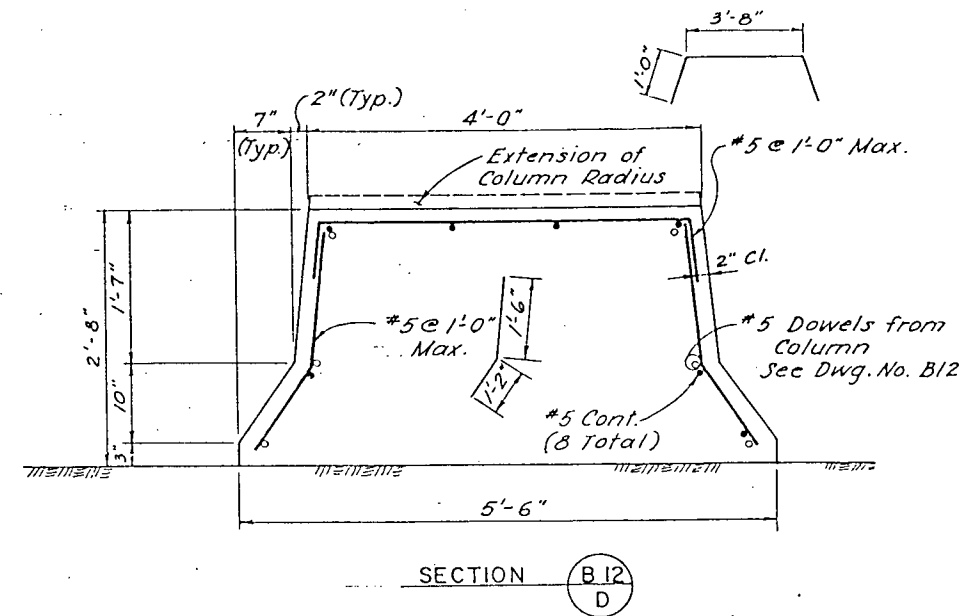
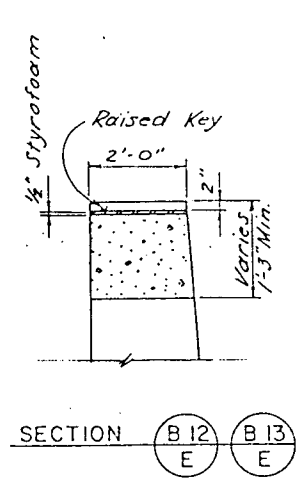
Designer	R. BORDEN	Structure	I-17-IJ
Detailer	T. RICK	Numbers	
Drawing Number	B12	of 30	Drawings

Revision Dates (Preliminary Stage Only)

AS CONSTRUCTED		
NO REVISIONS	8-17-87	REVISED
		VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC04-0025-19	51	

REVISIONS	



**URS ENGINEERS - DENVER**

**DIVISION OF HIGHWAYS**

**PIER 2 DETAILS**

Designer	R. Borden	Structure Numbers	I-17-IJ
Detailer	T. Rick		
Drawing Number	B-13	of	30 Drawings

Revision Dates (Preliminary Stage Only)

CHECKED BY T.A.R. 1-3-85  
 L.L.F. 7-8-85  
 DETAILED BY

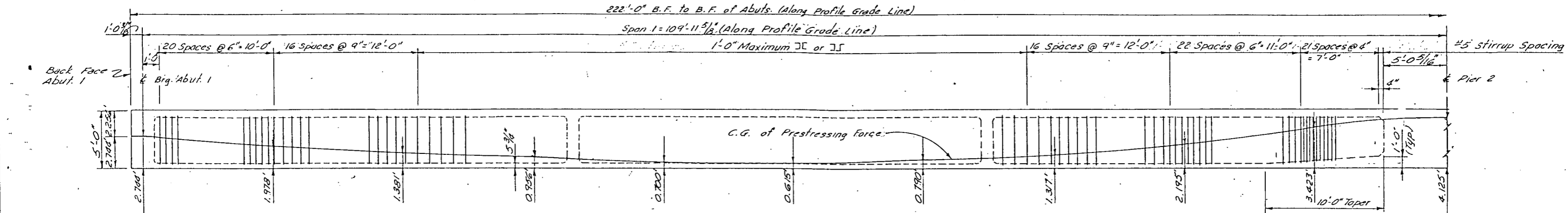




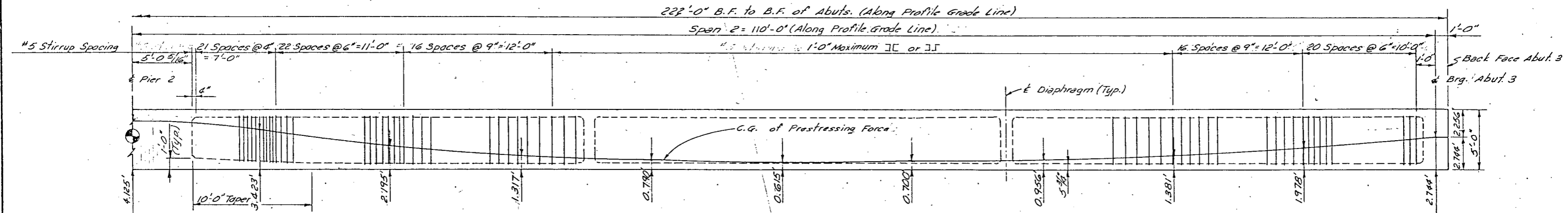
AS CONSTRUCTED  
 NO REVISIONS 5-17-87 REVISED VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC04-0025-19	54	

REVISIONS	



Points	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
D.L. Deflection (Ft.)	0	.0323'	.0545'	.0779'	.0857'	.0823'	.0691'	.0289'	.0263'	.0076'	0
P/S Deflection (Ft.)	0	-.0209'	-.0340'	-.0522'	-.0587'	-.0556'	-.0500'	-.0362'	-.0198'	-.0056'	0
Net Deflection (Ft.)	0	.0342'	.0615'	.0771'	.0810'	.0801'	.0573'	.0381'	.0195'	-.0060'	0



Points	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
D.L. Deflection (Ft.)	0	.0076'	.0263'	.0489'	.0691'	.0883'	.0857'	.0779'	.0595'	.0323'	0
P/S Deflection (Ft.)	0	-.0056'	-.0198'	-.0362'	-.0500'	-.0587'	-.0522'	-.0390'	-.0209'	-.0056'	0
Net Deflection (Ft.)	0	-.0060'	.0195'	.0381'	.0573'	.0801'	.0810'	.0771'	.0615'	.0342'	0

**CABLE PATH AND DEFLECTIONS**  
**STIRRUP SPACING**

**STRESSING NOTES**

- Design is based on  $\mu = 0.25$  and  $K = 0.002$ .  $P_{jack}$  specified at the jacking ends includes friction losses and provisions for an additional 30 ksi loss in stress.
- Tendons to be jacked to .75  $F_s$ 's and anchored at an equivalent anchor set  $\pm 5/8"$ .
- Contractor to submit elongation and jacking calculations based on  $\mu = .1397$  and initial stress at pier 2 = .870 times jacking stress.
- Designer assumed 1/2" strands with a maximum of 47 per duct.

**JACKING FORCE**

( $P_{jack}$ ) = 3,105.6 kips total at jacking ends,  $A_s = \frac{P_{jack}}{.75 F_s}$   
 $F_s = 270$  ksi

**CONCRETE**

$F_c = 4,500$  psi at 28 days.  
 $F_{ci} = 3,500$  psi at time of stressing

**PRESTRESSING STEEL**

At the Contractor's option the tensioning force may vary  $\pm 5\%$  from the theoretical force per girder, provided the total force is obtained and is distributed symmetrically about the  $C_g$  of the typical section. One end stressing will not be permitted.

- + = Downward Deflection
- = Upward Deflection
- = Indicates point of minimum prestress for two ends stressing.

**Notes:**

- For camber of girder, use the net deflection as shown on the table. Camber is the reverse of the deflection.
- Information concerning cable path and jacking force applies only to girder webs 1 thru 9. For stressing details for curved fascia, see Dwg. No. B14.
- Fascias are to be placed before webs 1 thru 9 are stressed.

**URS ENGINEERS - DENVER**

**DIVISION OF HIGHWAYS**

**SUPERSTRUCTURE DETAILS**

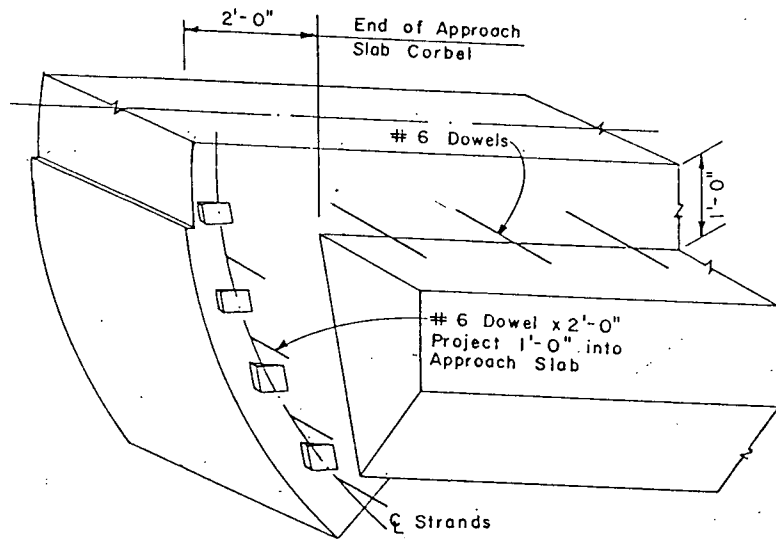
Designer	R. BORDEN	Structure	I-17-IJ
Detailer	T. RICK	Numbers	
Drawing Number B16		of 30 Drawings	

I.T.A.R. 13-851 CHECKED BY L.L.F. 11-87

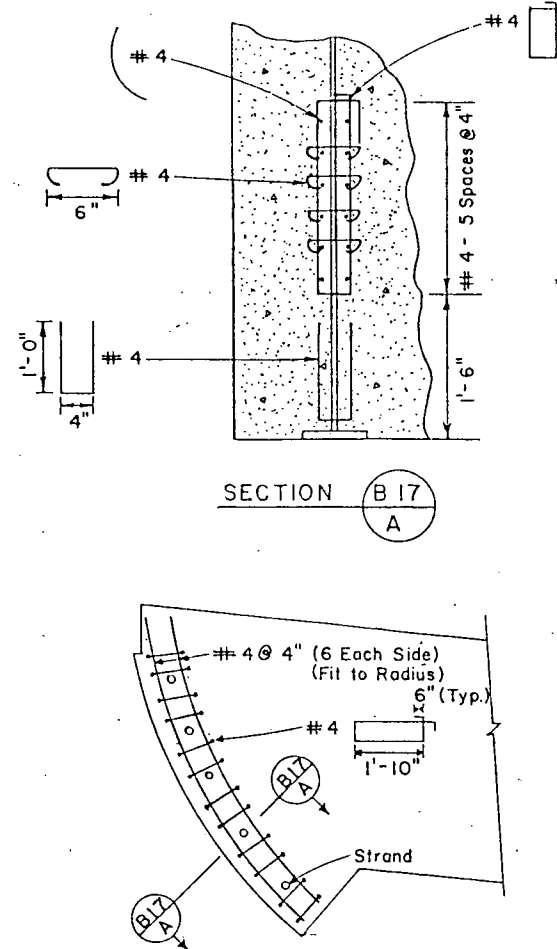
AS CONSTRUCTED		
NO REVISIONS	8-17-87	REVISED
		VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC04-0025-19	55	

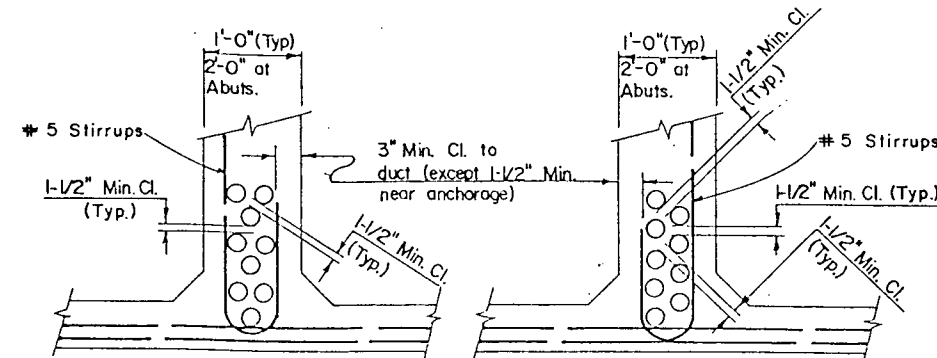
REVISIONS	



FASCIA BEARING SEAT ILLUSTRATION

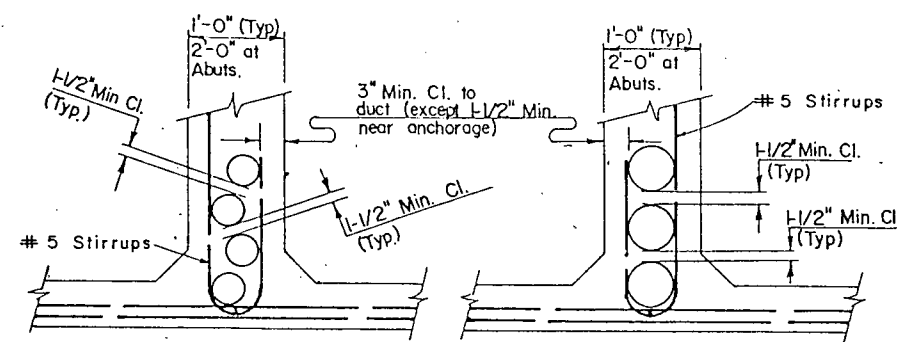


FASCIA ANCHORAGE REINFORCING DETAIL



Ducts 3" O.D. & Less

Ducts Over 3" O.D. & Less Than 4" O.D.



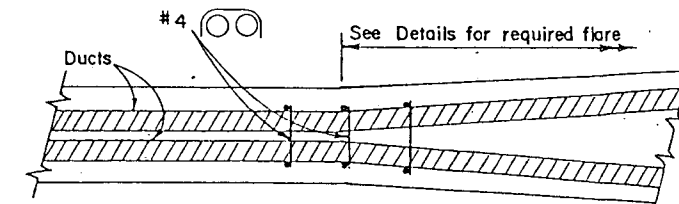
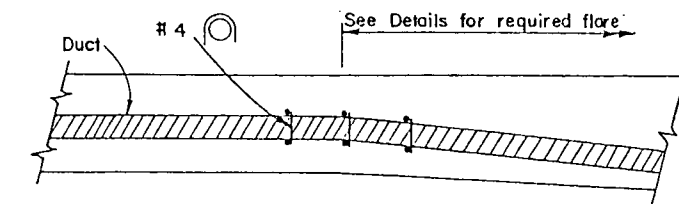
Ducts 4" to 4 1/2" O.D.

Ducts Over 4 1/2" O.D.

**CLEARANCE REQUIREMENTS FOR DUCTS\***

\*Nine interior webs only.

- GIRDER STIRRUPS MUST BE BENT TO FIT THE DUCT SIZE USED, OR STIRRUPS MAY BE USED.
- APPROVAL OF THE ENGINEER IS REQUIRED FOR DEVIATIONS.
- INFORMATION SHOWN APPLIES ONLY TO THE NINE INTERIOR WEBS.



**Plan Views**

Provide #4 ties for each pair of ducts, or single ducts, tie to three stirrups at beginning of duct flare.

**ADDITIONAL REINFORCEMENT AT FLARE OF DUCTS**

NOTES:  
RECESS FOR ANCHORAGE TO BE FILLED WITH CONCRETE TO PROVIDE A MINIMUM OF 1-1/2" COVER.

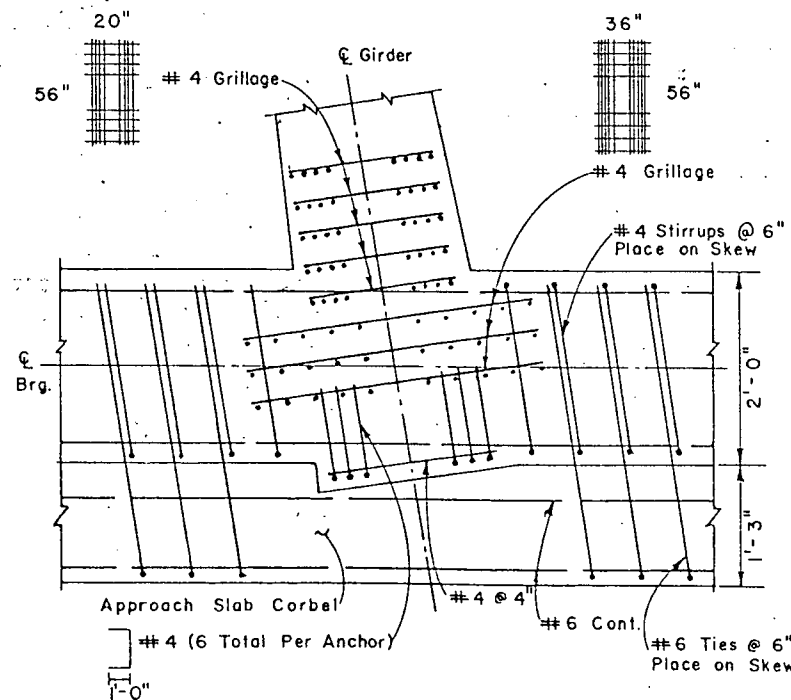
EDGE DISTANCE OF BEARING PLATES SHALL BE 1-1/2" MINIMUM.

STRESSING SEQUENCE:

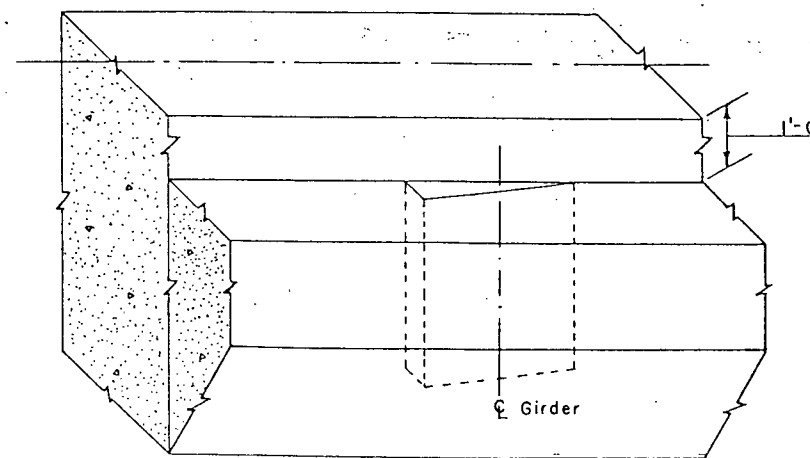
NO MORE THAN 1/2 OF THE PRESTRESSING FORCE IN ANY GIRDER MAY BE STRESSED BEFORE AN EQUAL FORCE IS STRESSED IN THE ADJACENT GIRDERS. AT NO TIME DURING THE STRESSING OPERATIONS WILL MORE THAN 1/6 OF THE TOTAL PRESTRESSING FORCE BE APPLIED ECCENTRICALLY ABOUT THE CENTERLINE OF THE STRUCTURE.

GIRDER STEM SHALL BE FLARED AS SHOWN ON DWG. NO. B15.

BAR REINFORCEMENT INTERFERING WITH THE PRESTRESSING TENDON ALIGNMENT SHALL BE ADJUSTED AS APPROVED BY THE ENGINEER.



PLAN VIEW - GIRDERS 1 THRU 9  
BEARING SEAT FOR PRESTRESSED ANCHORAGE AT ABUTMENTS



GIRDERS 1 THRU 9  
TYPICAL BEARING SEAT ILLUSTRATION  
Details may be modified to specific anchorage.

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DIVISION OF HIGHWAYS

SUPERSTRUCTURE DETAILS

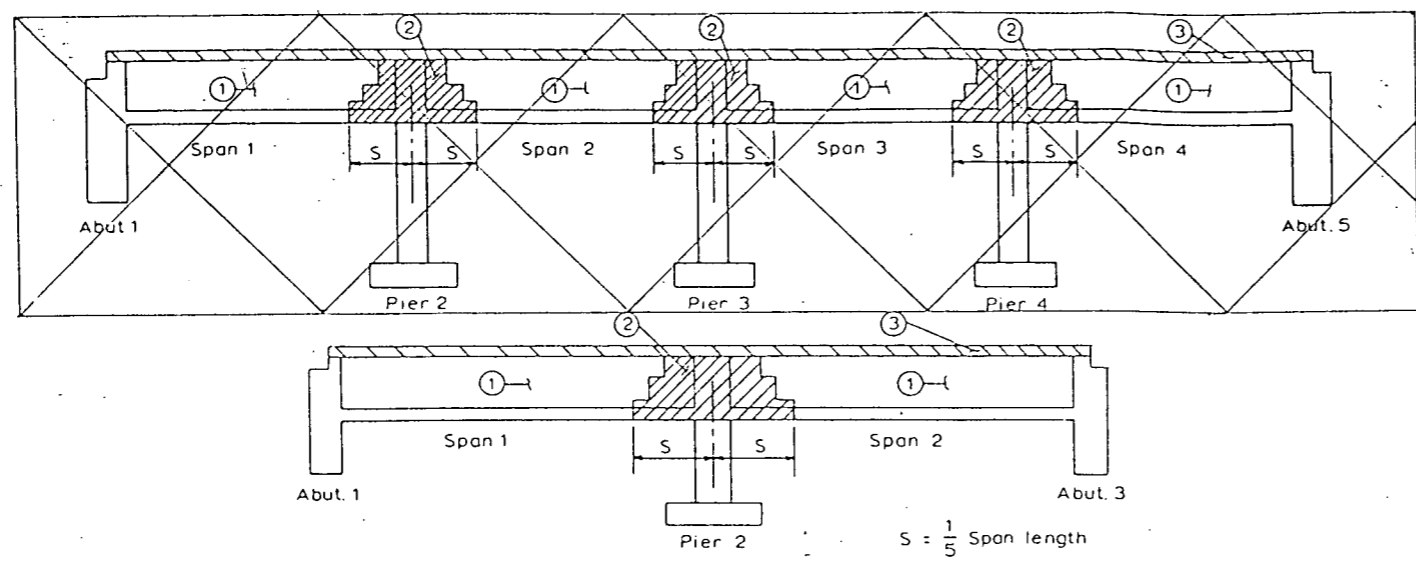
Designer	R. BORDEN	Structure	I-17-IJ
Detailer	T. RICK	Numbers	
Drawing Number	B17	of 30	Drawings

CHECKED BY T.A.R. 3-85  
 L.L.F. 7-85  
 DRAWING NO. B18

AS CONSTRUCTED		
NO REVISIONS	8-17-87	REVISED
		VOID

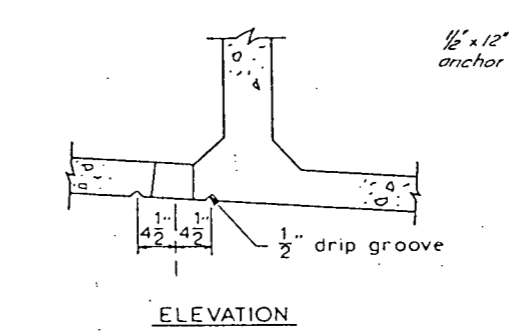
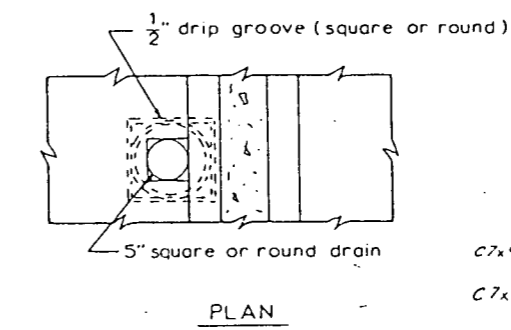
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC04-0025-19	56	

REVISIONS	

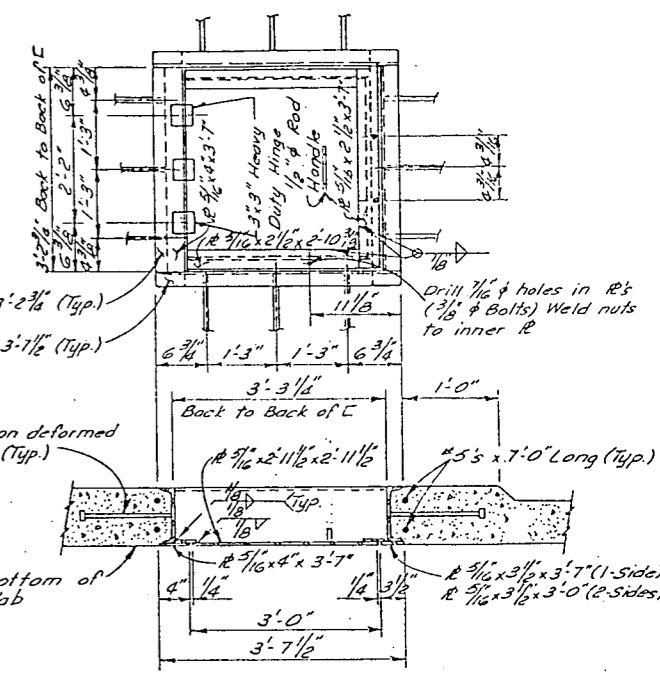


**BOX GIRDER SUPERSTRUCTURE PLACING SCHEDULE**

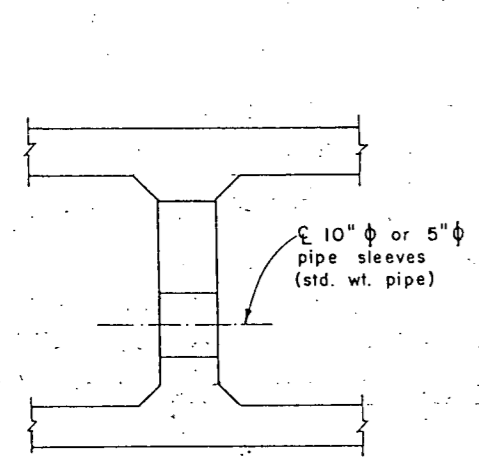
Note: Numbers ① and ② indicate sequence of placing bottom slab and girder web concrete when each section constitutes a separate pour. ③ may be placed continuously or in parts, as approved by the Engineer, providing no transverse construction joints fall within the ② areas. Contractor may submit an alternate placing schedule to the Engineer for approval. Curved outside fascia should be placed before the deck pour ③ - see Dwg. No. B14.



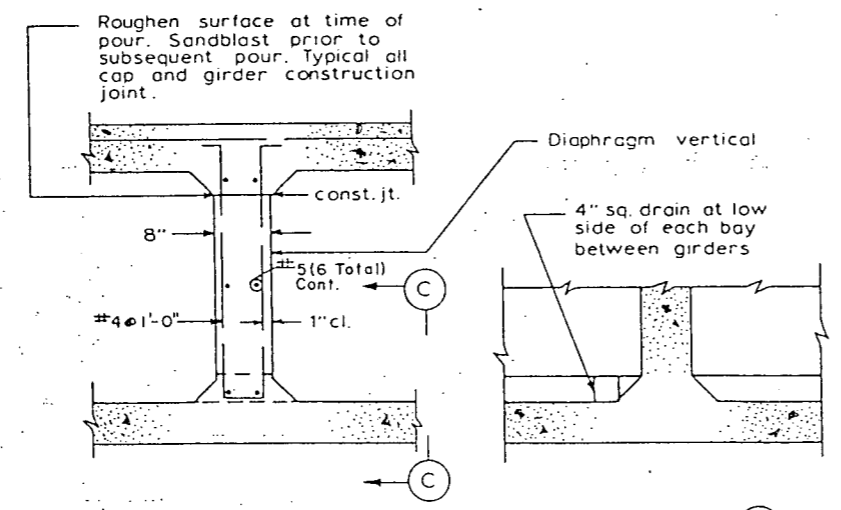
**BOTTOM SLAB DRAIN DETAIL**



**ACCESS DOOR (OPENING UP)**  
 (Door, frame and hardware to be galvanized)  
 For location see Construction Layout Dwg. No. B6

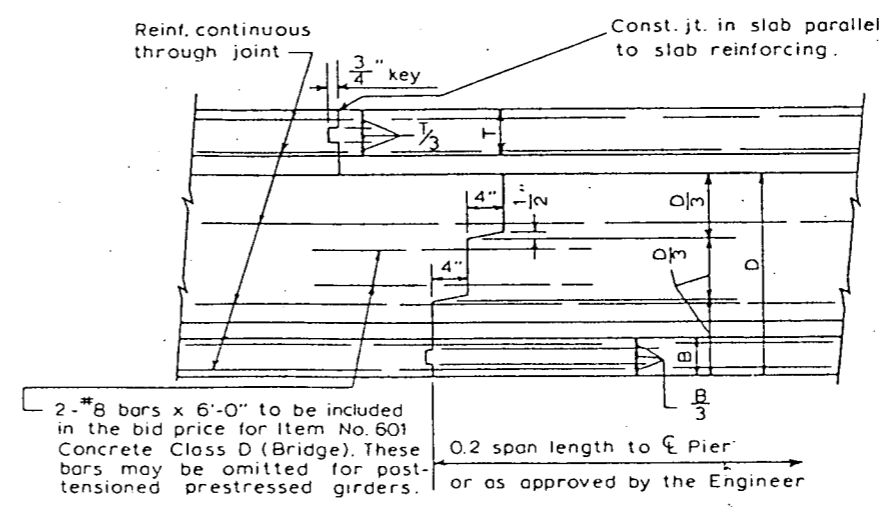


**PIPE SLEEVE DETAIL**



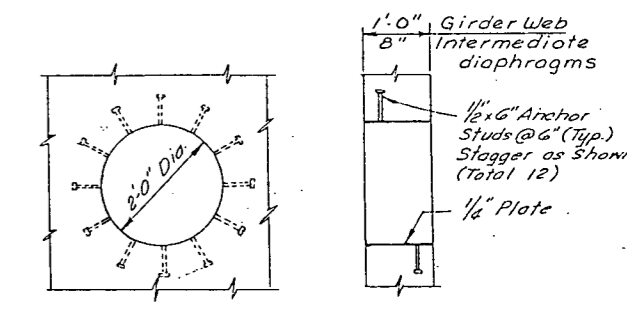
**ELEVATION SECTION C**

**INTERMEDIATE DIAPHRAGM SECTION**



**TRANSVERSE GIRDER CONSTRUCTION JOINT**

T: Top slab thickness = 7 1/2"  
 B: Bottom slab thickness = 5 3/4"



**ACCESS RING**  
 No. Req'd. 60

Access rings shall be required in the bid price for item 601 Concrete, Class D.  
 For location see Construction Layout Dwg. No. B6.

DIVISION OF HIGHWAYS	
BOX GIRDER DETAILS	
Designer R. BORDEN	Structure I-17-IJ
Detailer T. RICK	Numbers
Drawing Number B18	of 30 Drawings

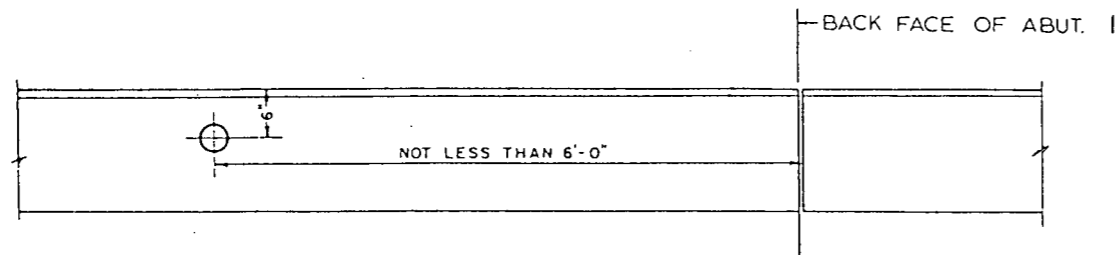


AS CONSTRUCTED		
NO REVISIONS	B-17-B1	VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC04-0025-19	57	

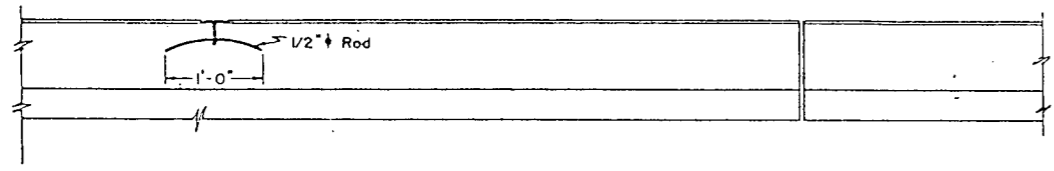
REVISIONS		

BRIDGE STANDARD. 103



PLAN

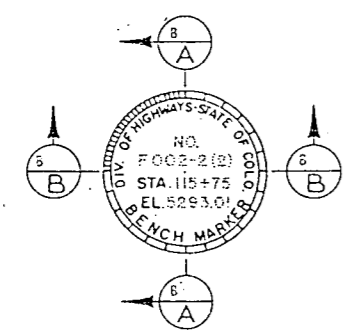
Note: Where 1'-3" safety curbs are not used place marker in center of curb.



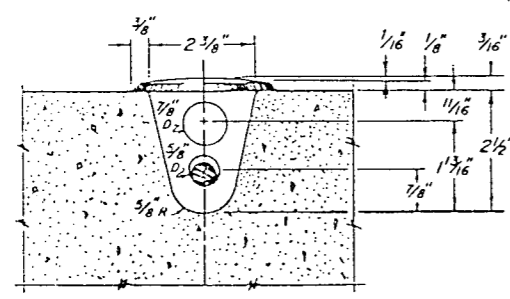
ELEVATION

NOTES:

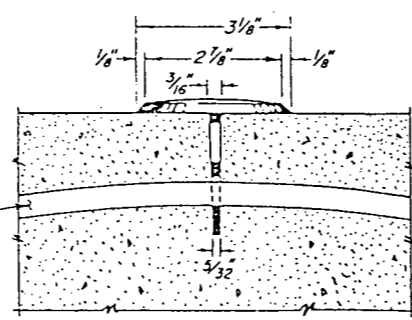
- All work shall be done in accordance with Standard Specifications applicable to the project.
- All exposed surfaces of the bronze tablet are to be ground to a smooth surface. All letters are to be depressed a minimum of 1/16 inch. Information on the bronze tablet indicated by pin lines is to be stamped in field by the engineering party after marker is placed. 3/16 inch letters and figures to be used. Project designation on tablets shall be properly shown (i.e., I for Fed. Aid Interstate, F for Fed. Aid Primary, S for Fed. Aid Secondary, etc. B C for State Projects. See details below).
- Bronze Bench Mark Tablets will be furnished by the Division at no expense to the Contractor.
- Installation of Bronze Bench Mark Tablets will not be paid for directly, but shall be included in the price bid for Concrete.



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



SECTION B



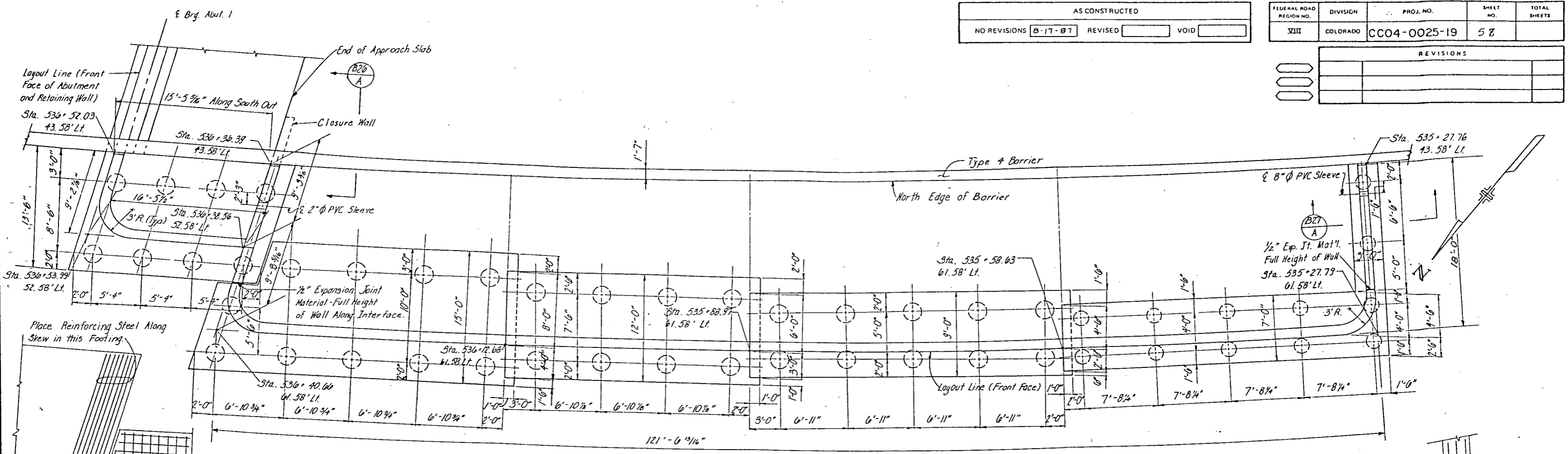
SECTION A

BENCH MARK DETAILS

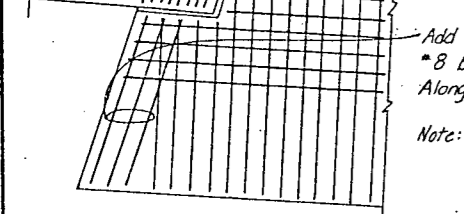
DIVISION OF HIGHWAYS	
BENCH MARK	
Designer R. BORDEN	Structure I-17-IJ
Detailer T. RICK	Numbers
Drawing Number B19	of 30 Drawings

DRAWING BY: BIR 5-82  
 CHECKED BY: LLF 7-86

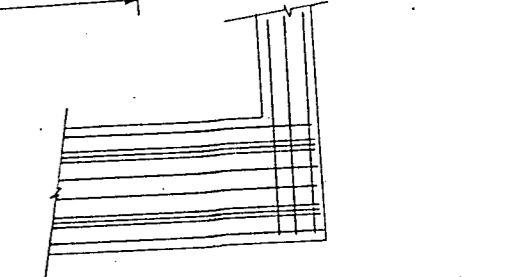
REVISIONS	



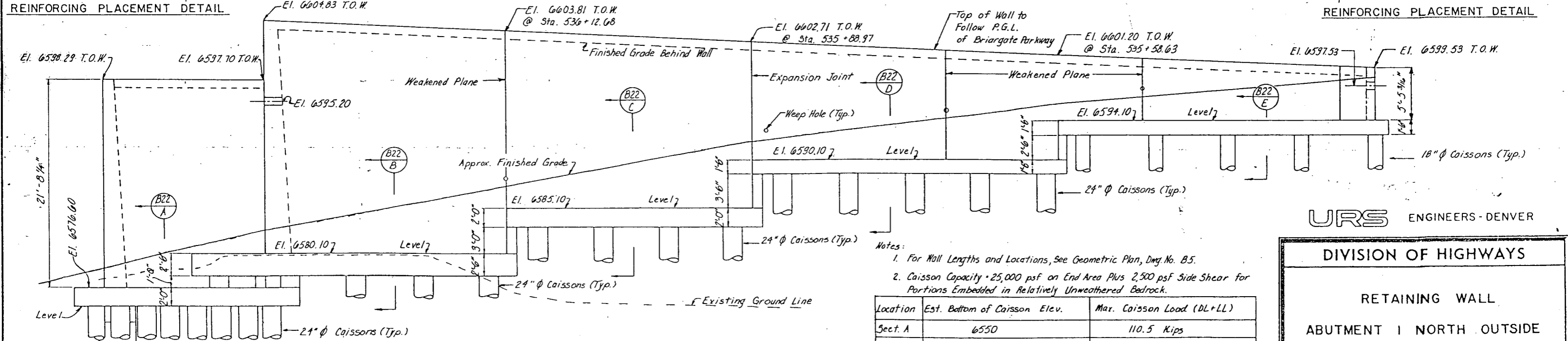
PLAN



REINFORCING PLACEMENT DETAIL



REINFORCING PLACEMENT DETAIL



ELEVATION

- Notes:
- For Wall Lengths and Locations, See Geometric Plan, Dwg. No. B5.
  - Caisson Capacity - 25,000 psf on End Area Plus 2,500 psf Side Shear for Portions Embedded in Relatively Unweathered Bedrock.

Location	Est. Bottom of Caisson Elev.	Max. Caisson Load (DL+LL)
Sect. A	6550	110.5 Kips
Sect. B	6550	170.0 Kips
Sect. C	6550	118.5 Kips
Sect. D	6552	62.1 Kips
Sect. E	6552	36.1 Kips

URS ENGINEERS - DENVER

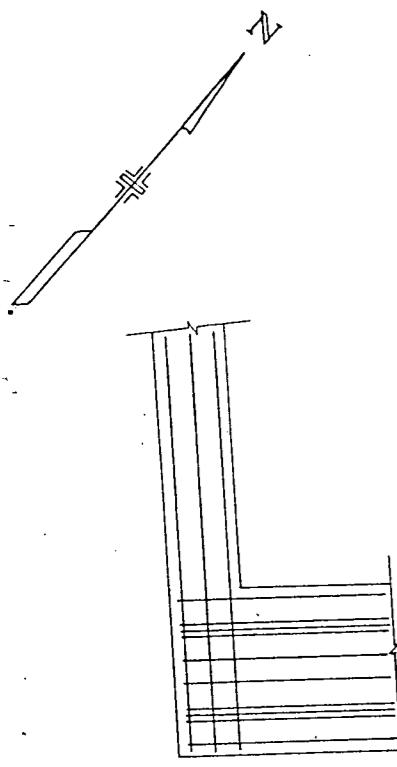
**DIVISION OF HIGHWAYS**

**RETAINING WALL**

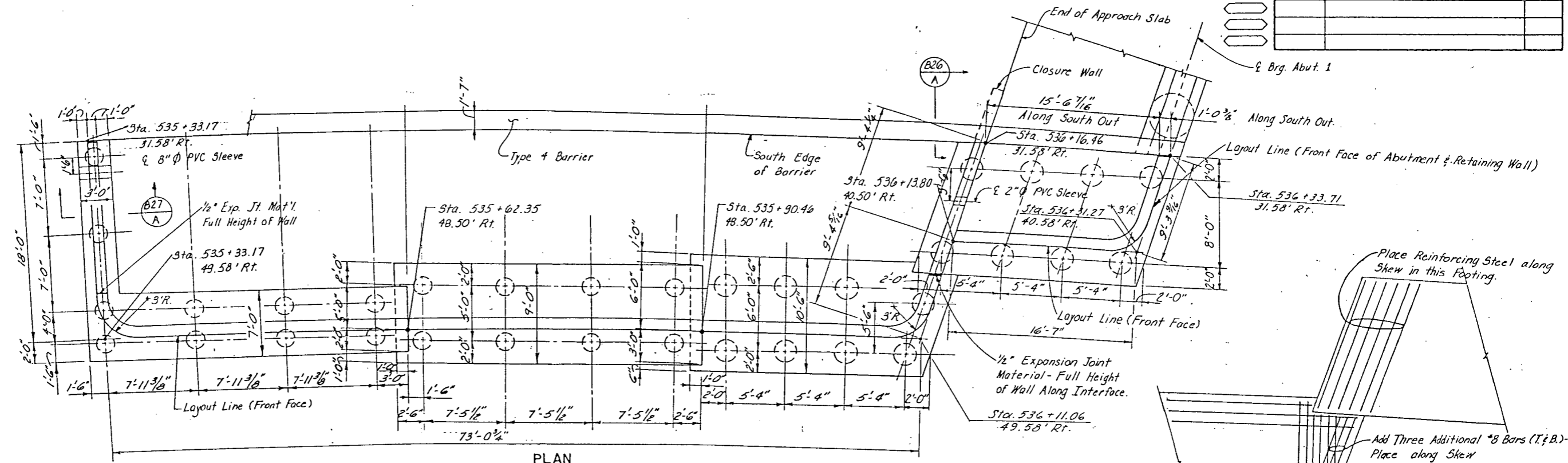
**ABUTMENT I NORTH OUTSIDE**

Designer A. GRIFFITH	Structure I-17-IV
Detailer L. FABIAN	Numbers
Drawing Number B 20	of 30 Drawings

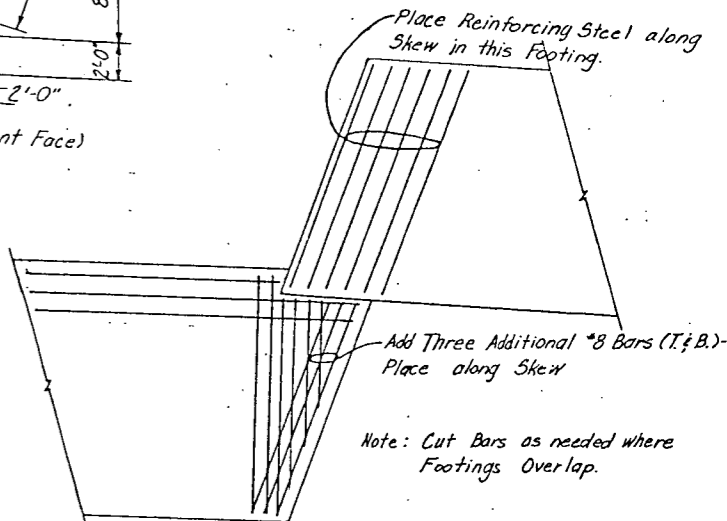
REVISIONS	



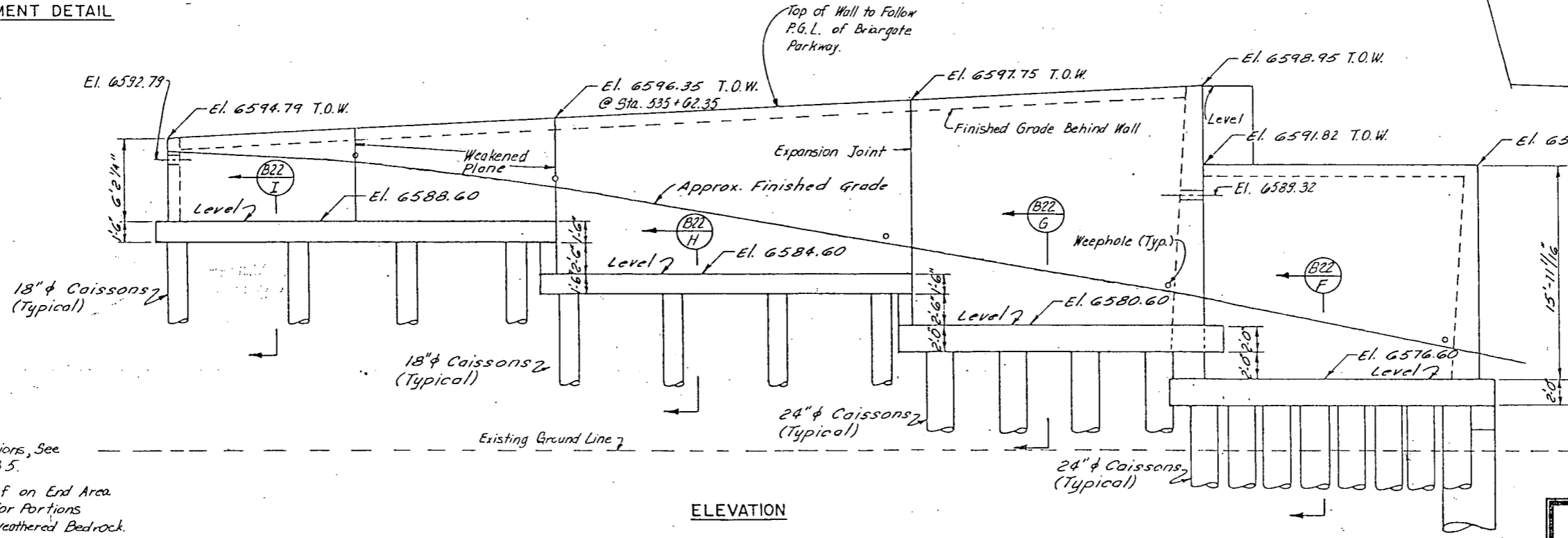
REINFORCING PLACEMENT DETAIL



PLAN



REINFORCING PLACEMENT DETAIL



ELEVATION

- Notes:
- For Wall Lengths and Locations, See Geometric Plan, Dwg. No. B.5.
  - Caisson Capacity = 25,000 psf on End Area Plus 2,500 psf Side Shear for Portions Embedded in Relatively Unweathered Bedrock.
  - All Dimensions are at Bottom of Concrete.

Location	Estimated Bottom of Caisson Elev.	Max. Caisson Load (DL+LL)
Sect. F	6550	99.5 Kips
Sect. G	6552	71.7 Kips
Sect. H	6552	66.2 Kips
Sect. I	6552	38.8 Kips

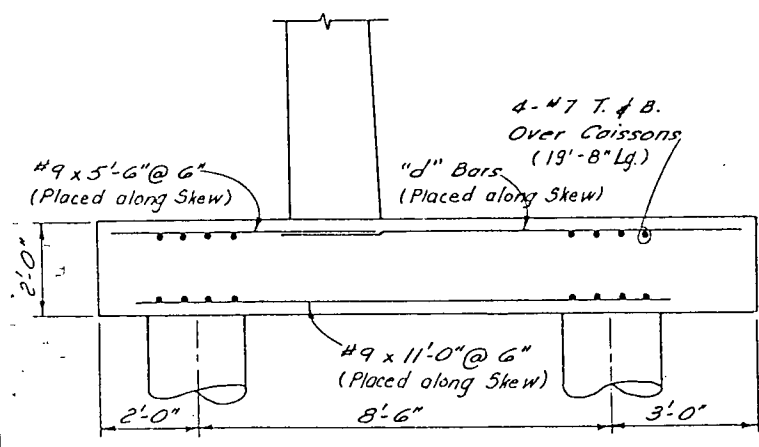
URS ENGINEERS - DENVER

**DIVISION OF HIGHWAYS**

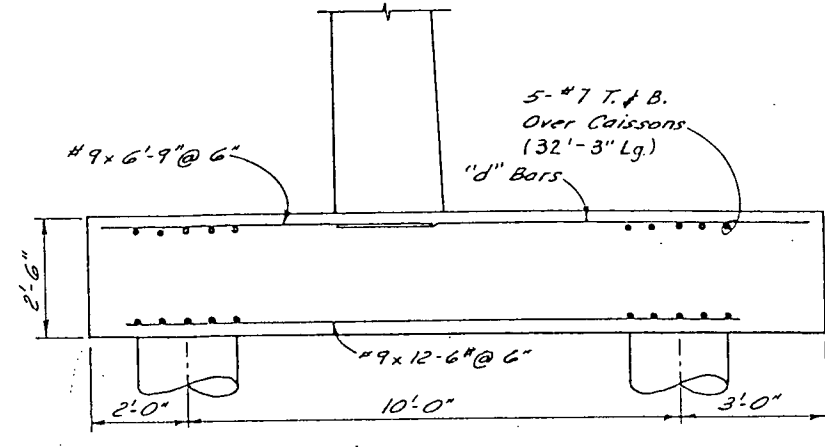
**RETAINING WALL  
 ABUTMENT 1 SOUTH INSIDE**

Designer A. GRIFFITH	Structure I-17-IJ
Detailer T. RICK	Numbers
Drawing Number B 21	of 30 Drawings

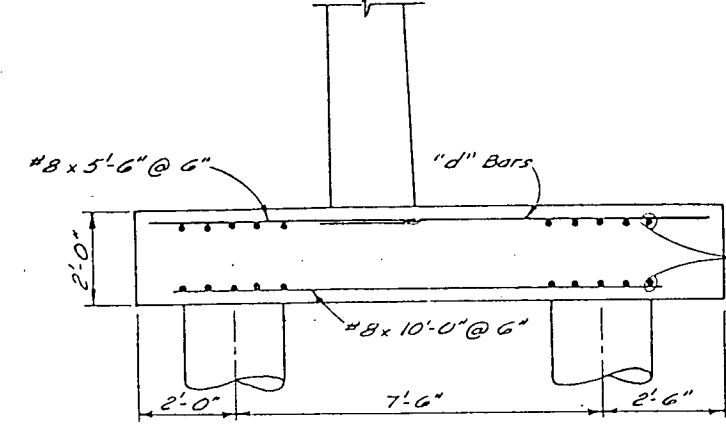
REVISIONS	



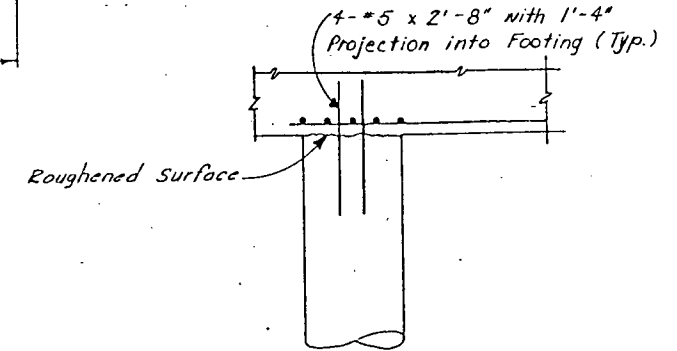
SECTION B20 A  
 DESIGN 'H' = 22'



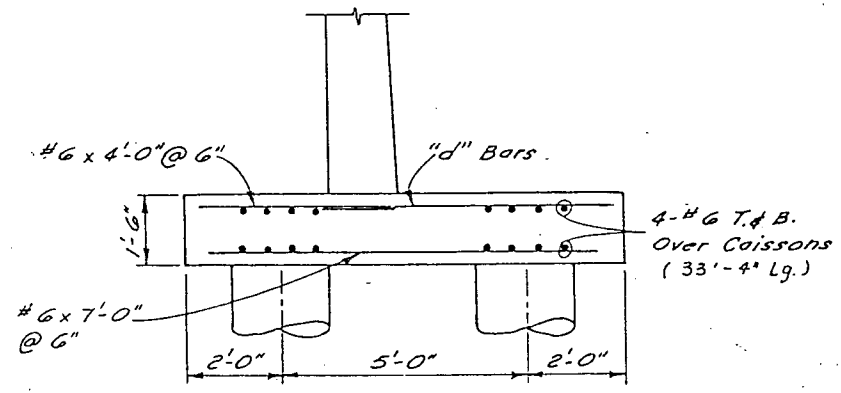
SECTION B20 B  
 DESIGN 'H' = 24'



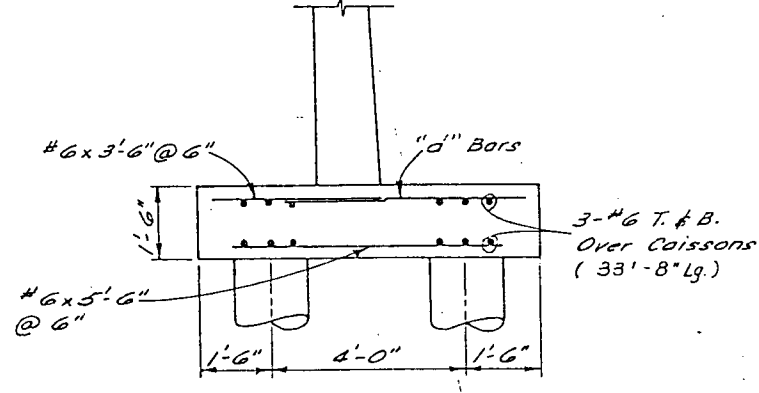
SECTION B20 C  
 DESIGN 'H' = 18'



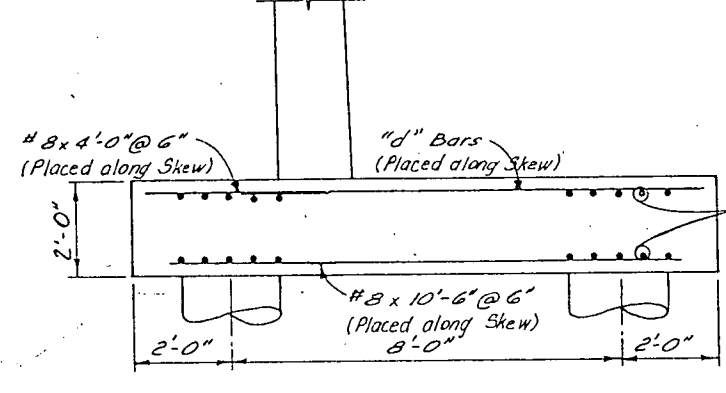
TYPICAL SHEAR CONNECTION BETWEEN FOOTINGS AND CAISSONS



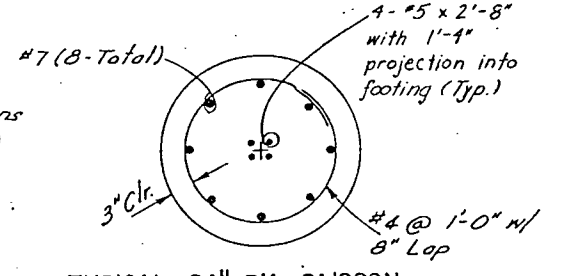
SECTION B20 D  
 DESIGN 'H' = 12'



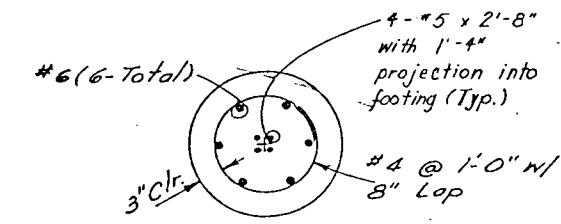
SECTION B20 E  
 DESIGN 'H' = 6'



SECTION B20 F  
 DESIGN 'H' = 16'

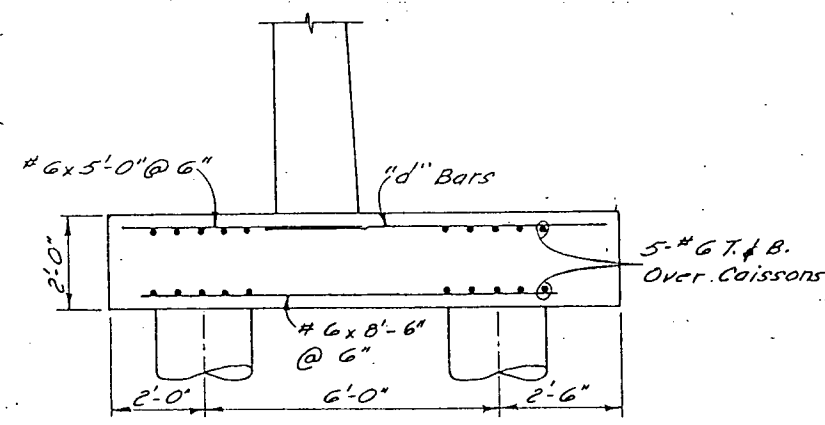


TYPICAL 24" DIA. CAISSON

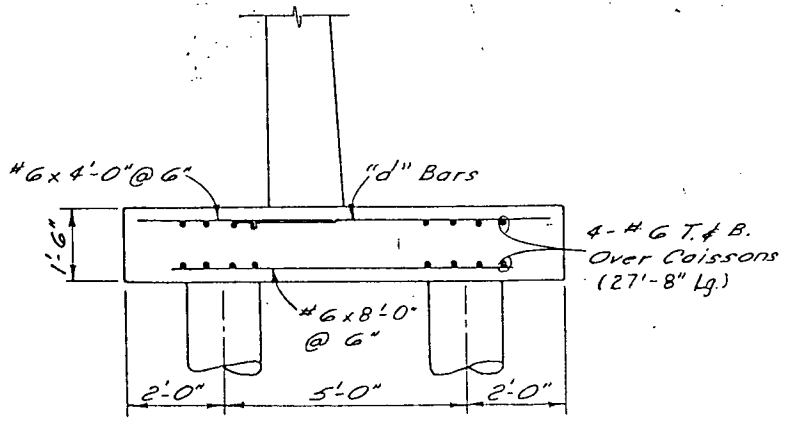


TYPICAL 18" DIA. CAISSON

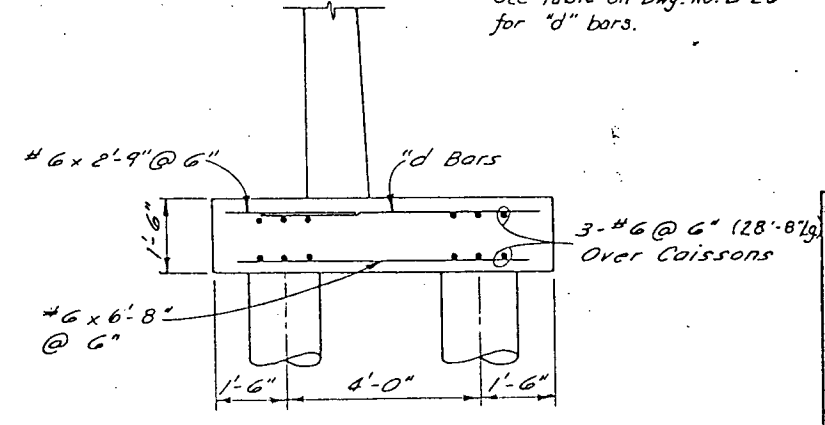
Note: Reinforcing on this drawing is to be placed in addition to that shown on Dwg. No. B 20. See Table on Dwg. No. B 20 for "d" bars.



SECTION B20 G  
 DESIGN 'H' = 18'



SECTION B20 H  
 DESIGN 'H' = 12'



SECTION B20 I  
 DESIGN 'H' = 8'

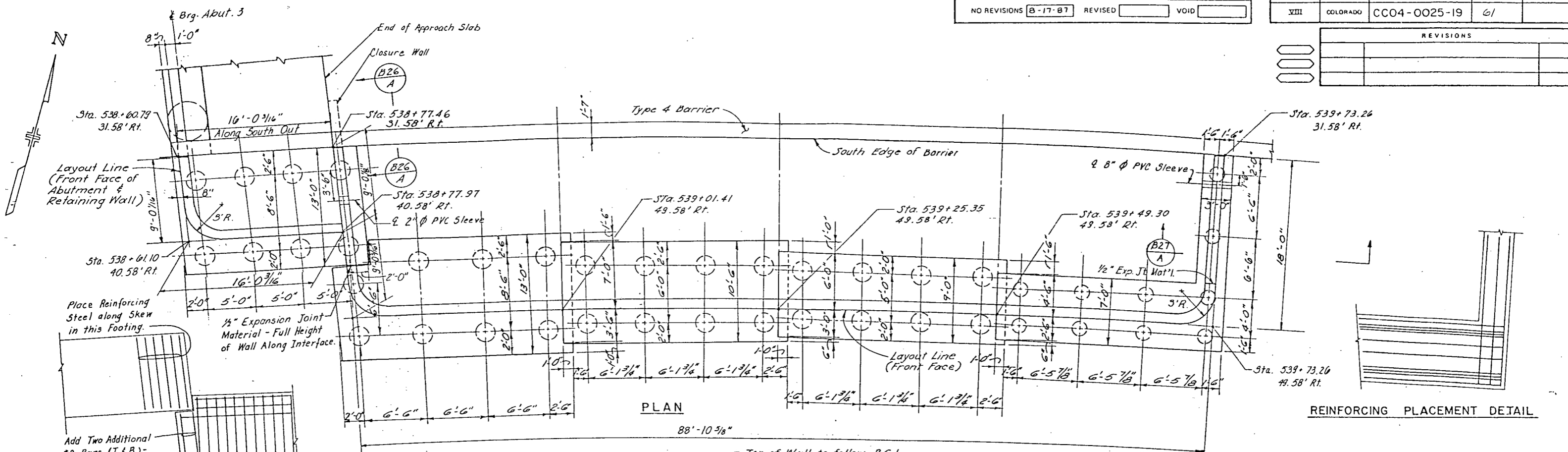
URS ENGINEERS - DENVER

DIVISION OF HIGHWAYS	
ABUTMENT I RETAINING WALL DETAILS	
Designer A. GRIFFITH	Structure I-17-IJ
Detailer T. RICK	Numbers
Drawing Number B 22	of 30 Drawings

AS CONSTRUCTED		
NO REVISIONS	B-17-87	REVISED
		VOID

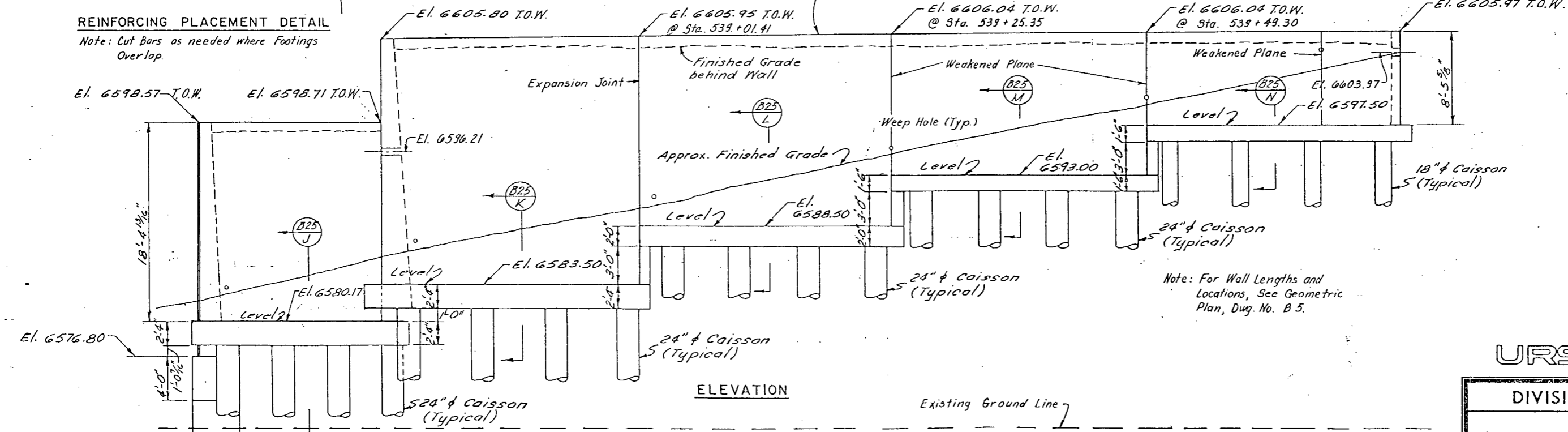
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC04-0025-19	61	

REVISIONS	



REINFORCING PLACEMENT DETAIL

**REINFORCING PLACEMENT DETAIL**  
 Note: Cut Bars as needed where Footings Overlap.



ELEVATION

Note: For Wall Lengths and Locations, See Geometric Plan, Dwg. No. B.5.

- Notes:
- For Wall Lengths and Locations, See Geometric Plan, Dwg. No. B.5.
  - Caisson Capacity = 25,000 psf on End Area Plus 2,500 psf Side Shear for Portions Embedded in Relatively Unweathered Bedrock.
  - All Footing Dimensions are at Bottom of Concrete.

Location	Estimated Bottom of Caisson Elev.	Max. Caisson Load (DL+LL)
Sect. J	6550	115.1 Kips
Sect. K	6550	119.7 Kips
Sect. L	6552	75.4 Kips
Sect. M	6552	53.5 Kips
Sect. N	6552	32.1 Kips

URS ENGINEERS - DENVER

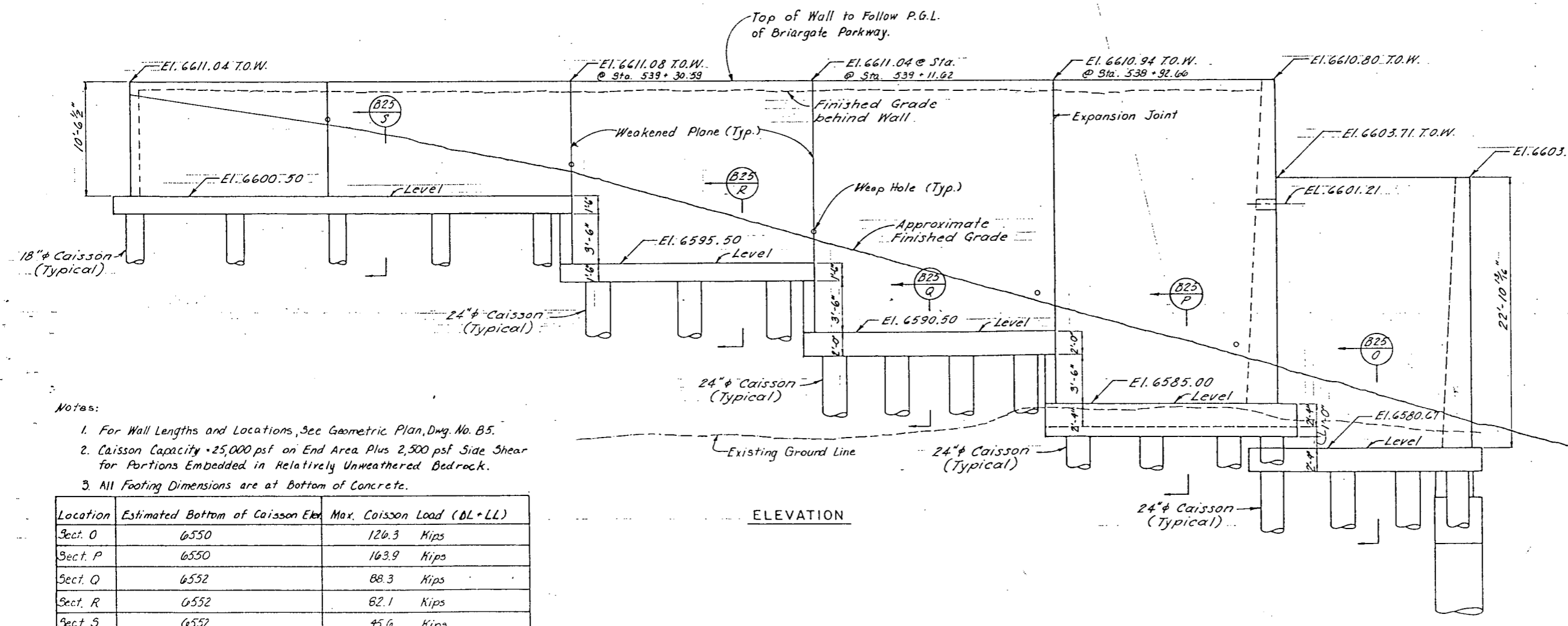
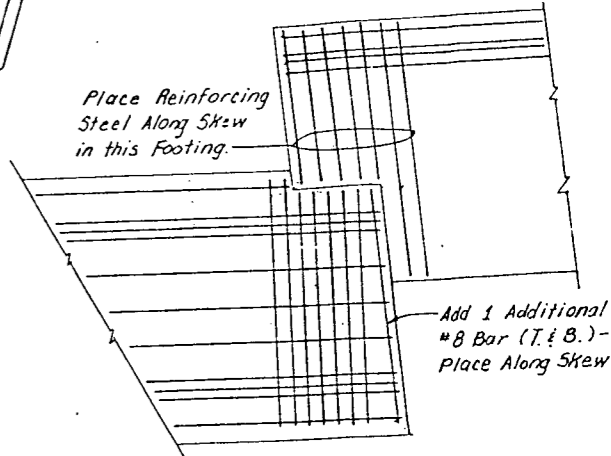
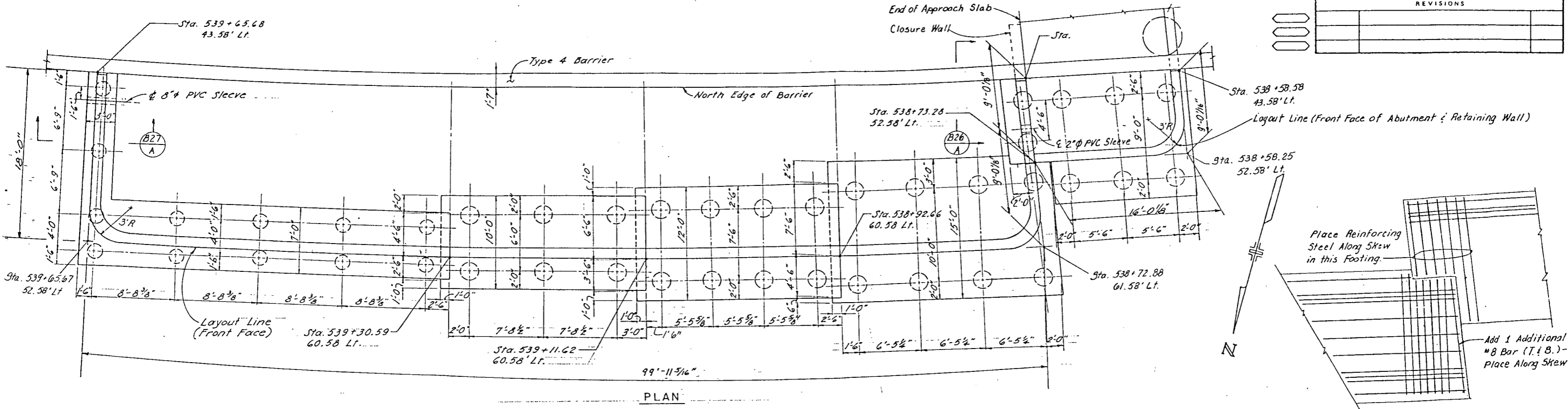
**DIVISION OF HIGHWAYS**

**RETAINING WALL  
ABUTMENT 3 SOUTH INSIDE**

Designer	A. GRIFFITH	Structure	I-17-IJ
Detailer	T. RICK	Numbers	
Drawing Number B 23		of	30 Drawings

Revision Dates (Preliminary Stage Only)

REVISIONS	



- Notes:
- For Wall Lengths and Locations, See Geometric Plan, Dwg. No. B5.
  - Caisson Capacity = 25,000 psf on End Area Plus 2,500 psf Side Shear for Portions Embedded in Relatively Unweathered Bedrock.
  - All Footing Dimensions are at Bottom of Concrete.

Location	Estimated Bottom of Caisson Elev.	Max. Caisson Load (DL+LL)
Sect. O	6550	126.3 Kips
Sect. P	6550	163.9 Kips
Sect. Q	6552	88.3 Kips
Sect. R	6552	82.1 Kips
Sect. S	6552	45.6 Kips

URS ENGINEERS - DENVER

DIVISION OF HIGHWAYS

RETAINING WALL  
 ABUTMENT 3 NORTH OUTSIDE

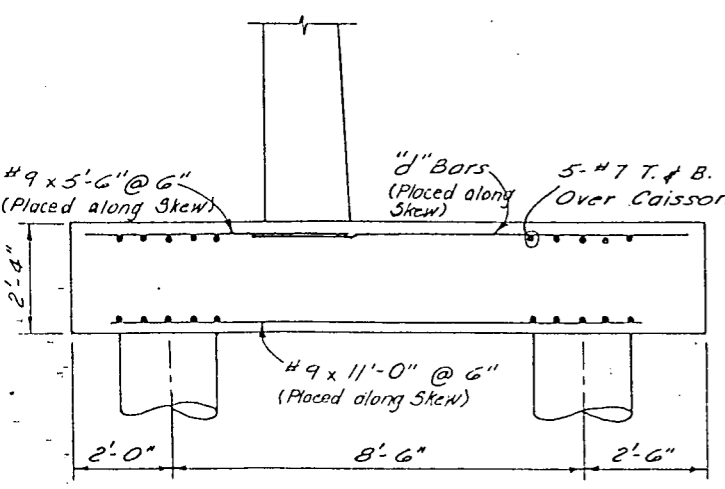
Designer	A. GRIFFITH	Structure Numbers	I-17-1J
Detailer	L. FABIAN	of 30	Drawings
Drawing Number	B 24		

Revision Dates (Preliminary Stage Only)

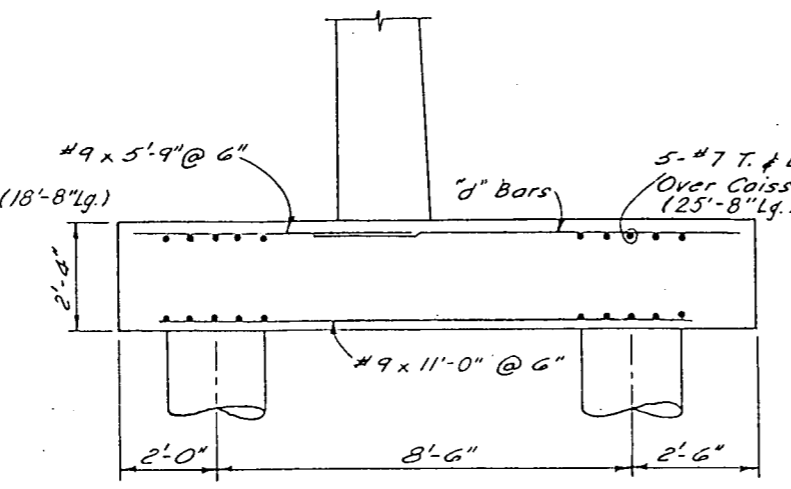
AS CONSTRUCTED		
NO REVISIONS	B-17-87	REVISED
		VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC04-0025-19	63	

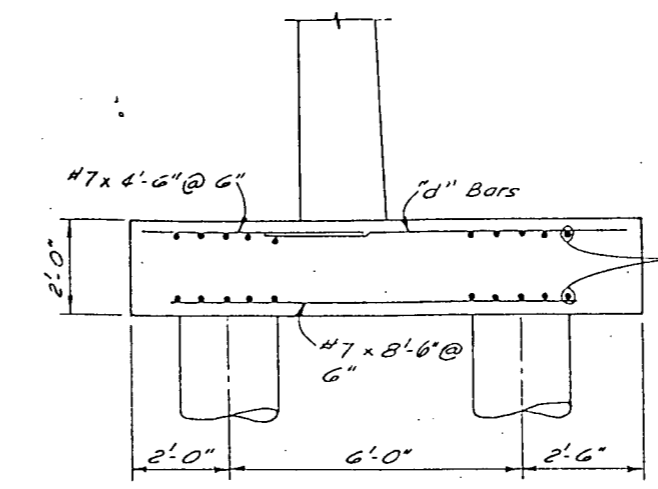
REVISIONS	



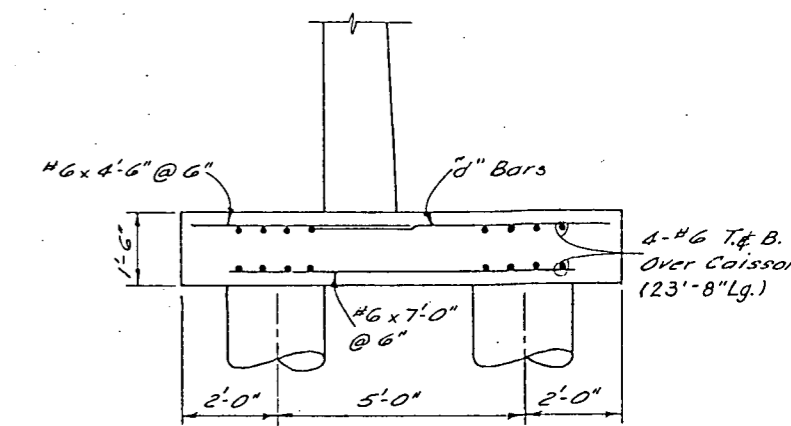
SECTION B23 J  
DESIGN 'H' = 18'



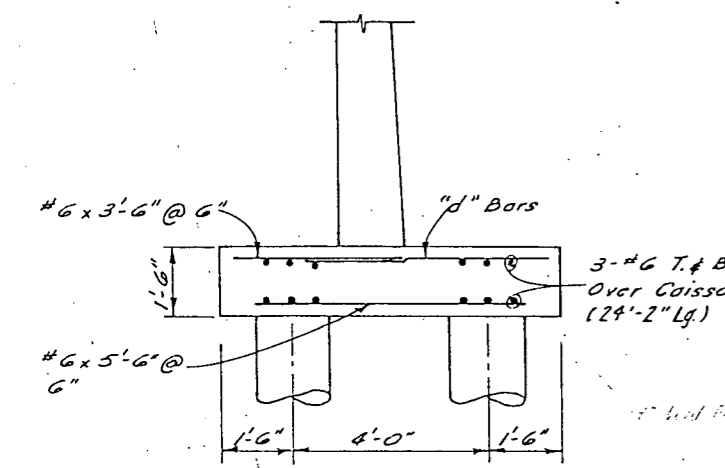
SECTION B23 K  
DESIGN 'H' = 22'



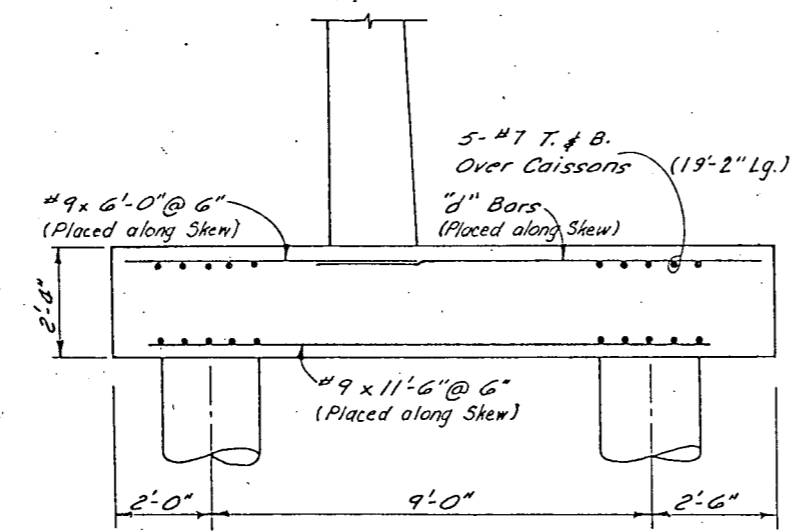
SECTION B23 L  
DESIGN 'H' = 16'



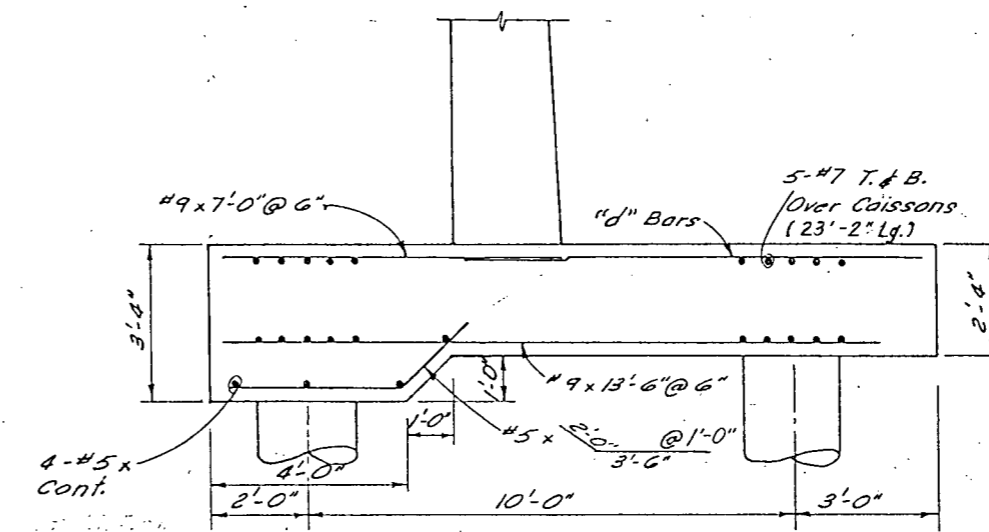
SECTION B23 M



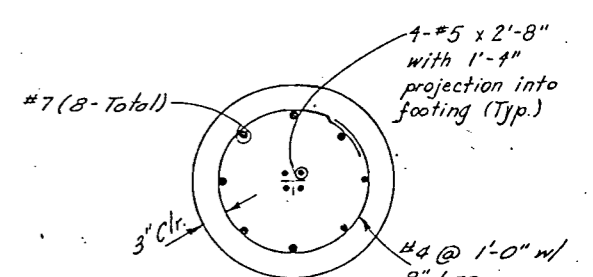
SECTION B23 N  
DESIGN 'H' = 8'



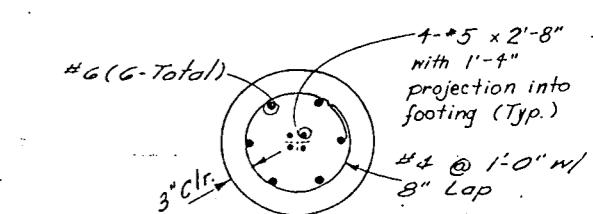
SECTION B24 O  
DESIGN 'H' = 22'



SECTION B24 P  
DESIGN 'H' = 26'

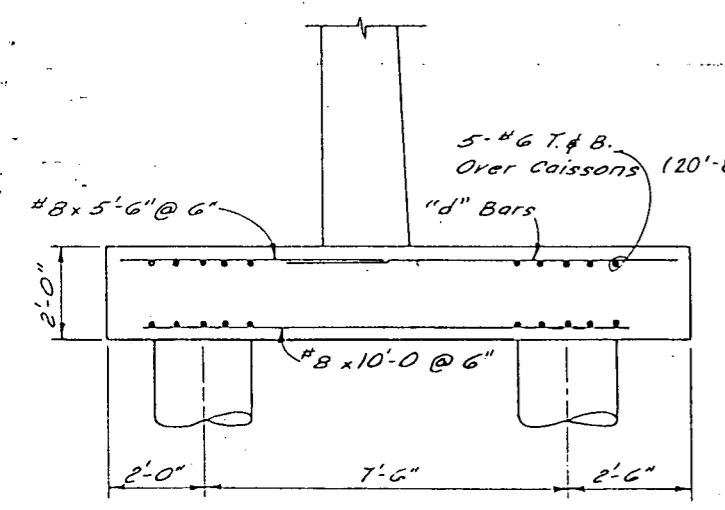


TYPICAL 24" DIA. CAISSON

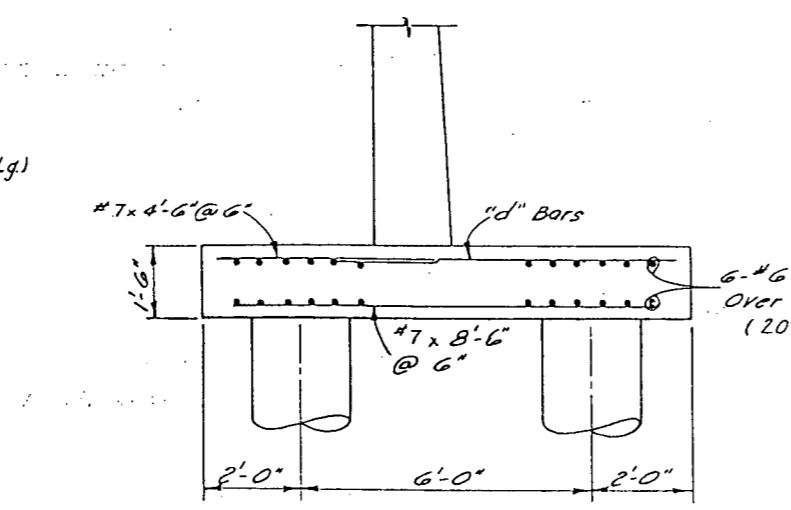


TYPICAL 18" DIA. CAISSON

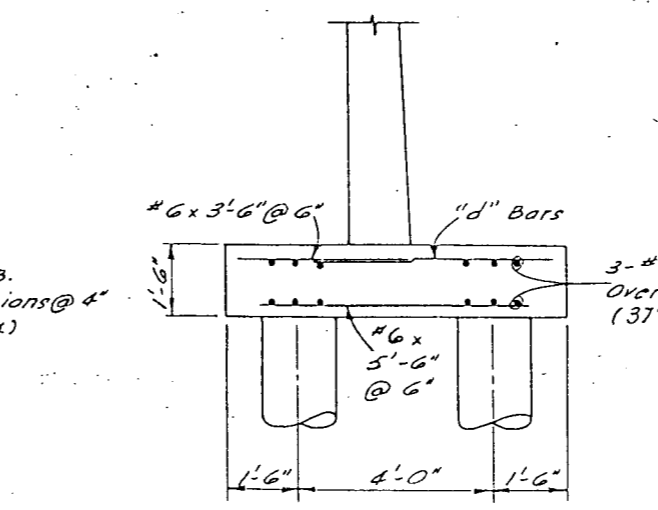
Note: Reinforcing on this drawing is to be placed in addition to that shown on Dwg. No. B 26. See Table on Dwg. No. B 26 for "d" bars.



SECTION B24 Q  
DESIGN 'H' = 20'



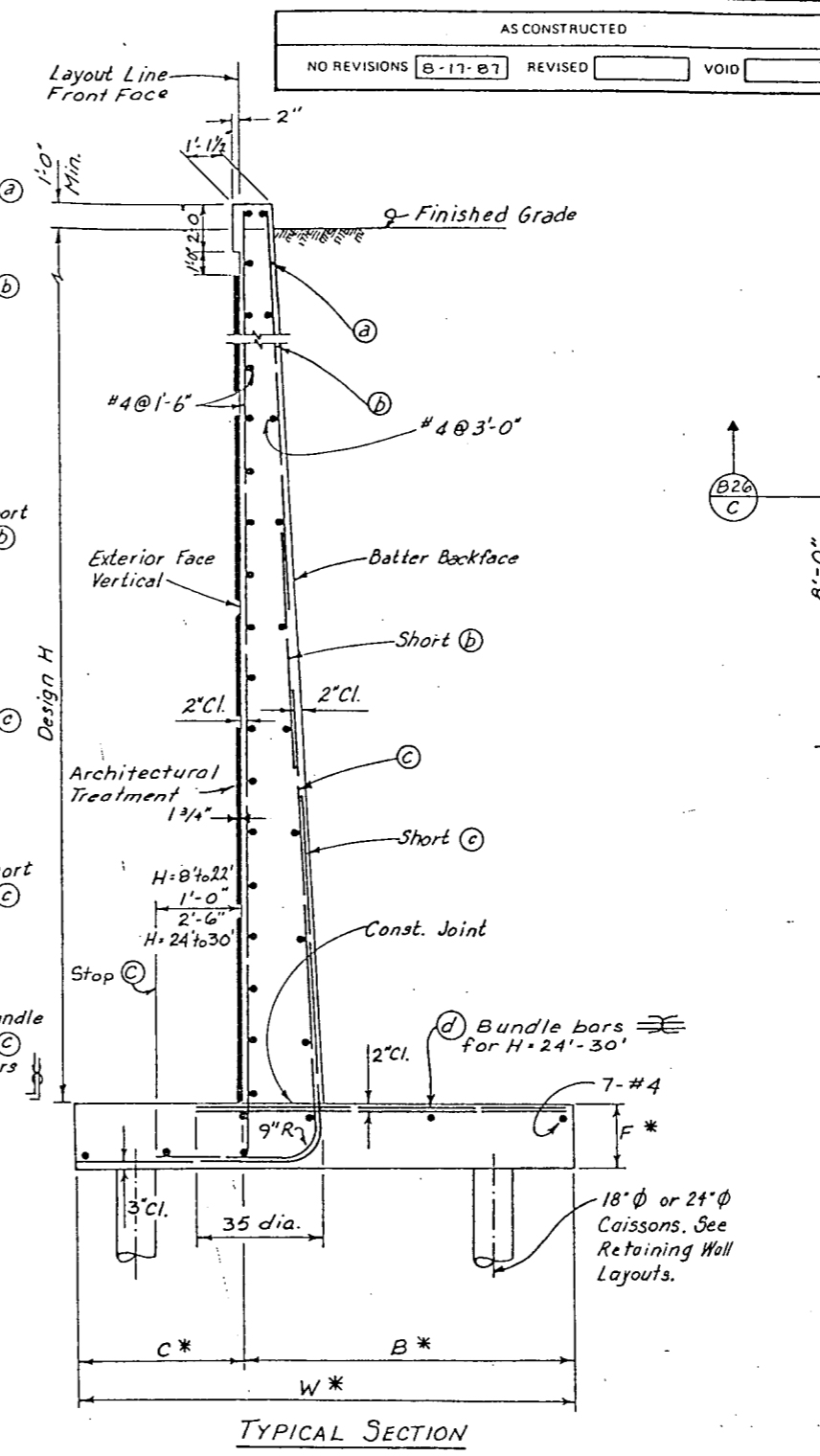
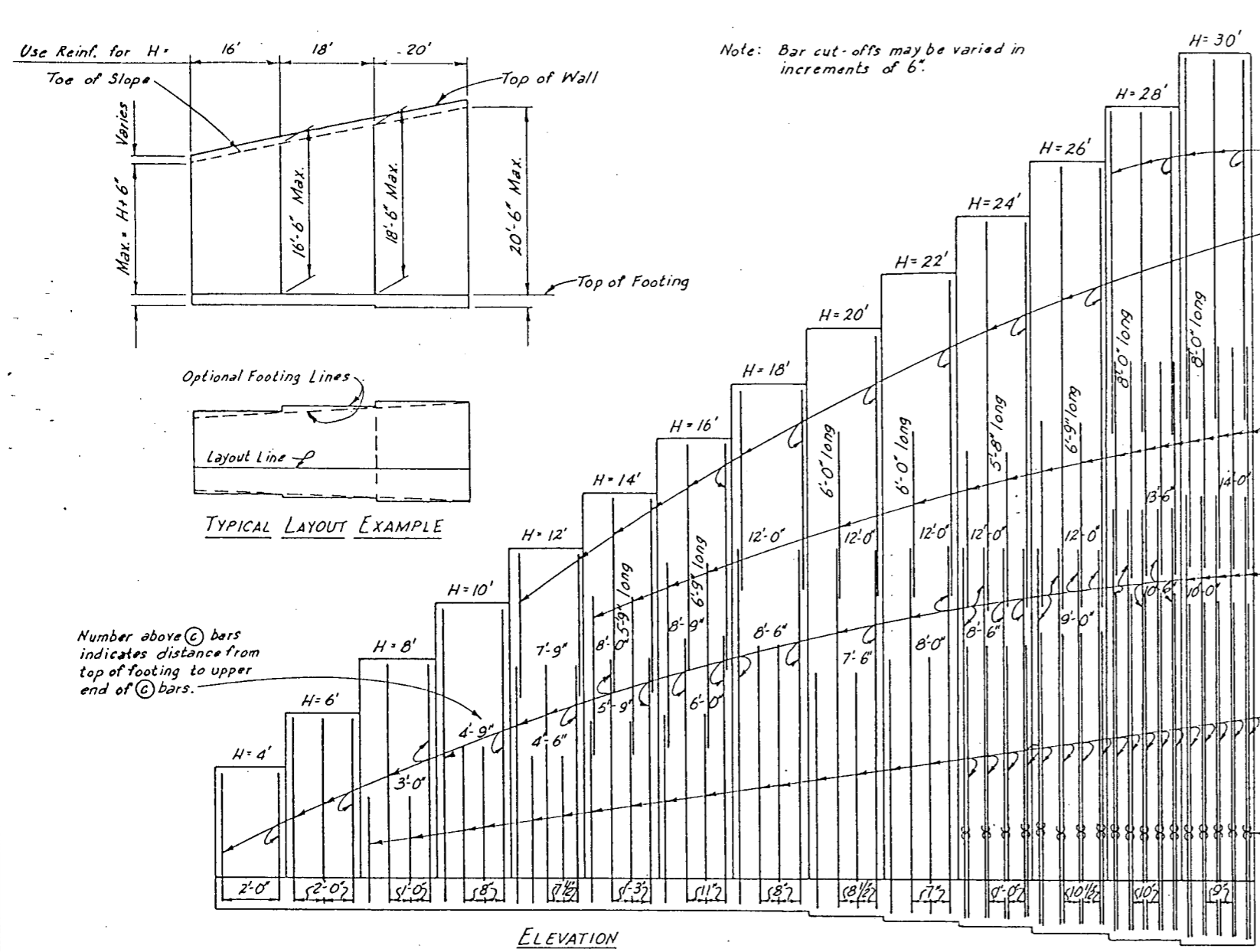
SECTION B24 R  
DESIGN 'H' = 14'



SECTION B24 S  
DESIGN 'H' = 10'

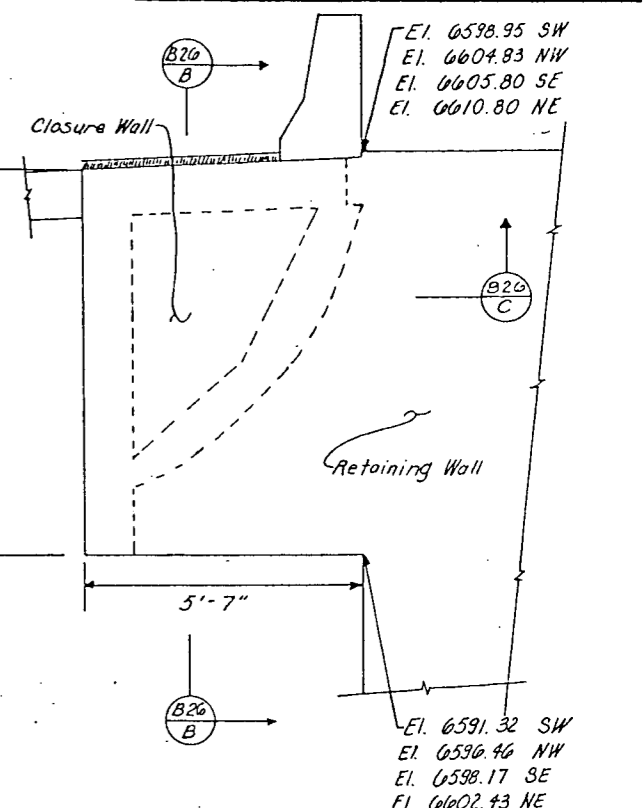
URS ENGINEERS - DENVER

DIVISION OF HIGHWAYS			
ABUTMENT 3 RETAINING WALL DETAILS			
Designer	A. GRIFFITH	Structure Numbers	I-17-IJ
Detailer	T. RICK		
Drawing Number	B 25	of 30	Drawings
Revision Dates (Preliminary Stage Only)			



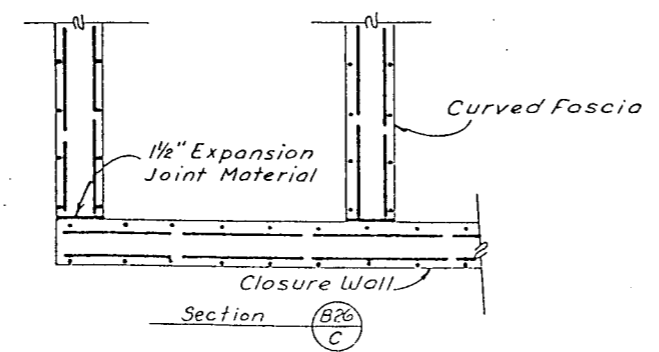
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC04-0025-19	6d	

REVISIONS	



Design H	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'
Batter	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	5/8:12	5/8:12	3/4:12	7/8:12
(a) bars														
(b) bars					#5@2'-6"	#5@1'-3"	#5@11"	#6@2'-0"	#7@1'-5"	#7@1'-2"	#8@1'-0"	#8@10"	#9@10"	#9@9"
(c) bars	#5@2'-0"	#5@2'-0"	#5@1'-0"	#5@8"	#6@7'-1/2"	#10@1'-3"	#10@11"	#10@8"	#11@8'-1/2"	#11@7"	#11@1'-0"	#11@10'-1/2"	#11@10"	#11@9"
(d) bars	#5@2'-0"	#5@2'-0"	#4@1'-0"	#4@8"	#5@7'-1/2"	#9@1'-3"	#9@11"	#9@8"	#10@8'-1/2"	#10@7"	#10@1'-0"	#10@10'-1/2"	#9@10"	#9@9"

X Denotes a bundle of two bars.



NOTES:  
 QUANTITIES APPLY TO THE DESIGN H PORTION AND EXCLUDE THE ADDED PORTION ABOVE "FINISHED GRADE OR TOE OF SLOPE SECTION."  
 DESIGN H MAY BE EXCEEDED BY 6" BEFORE GOING TO THE NEXT SIZE.  
 FOR DESIGN AND DETAILS NOT SHOWN, SEE DWG. NO. B 27.  
 DESIGN DATA:  
 AASHTO 1973 UNIT STRESSES, EXCEPT AS NOTED.  
 f<sub>c</sub> = 1200 psi  
 f<sub>s</sub> = 20,000 psi  
 n = 10  
 EARTH = 120 pcf, 2' SURCHARGE  
 EQUIVALENT FLUID PRESSURE = 36 pcf MAX.  
 \* SEE DWG. NOS. B22 AND B25 FOR DIMENSIONS B, C, F, AND W.  
 \* SEE DWG. NO. B5 FOR GEOMETRIC PLAN.

**URS ENGINEERS-DENVER**

**DIVISION OF HIGHWAYS**

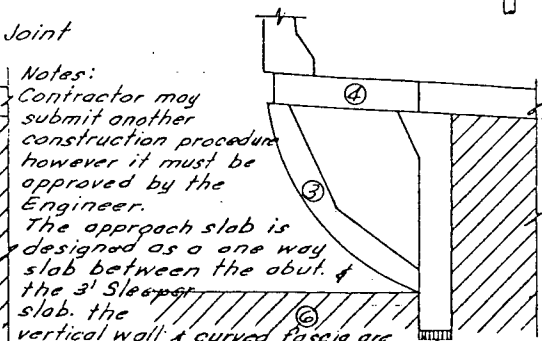
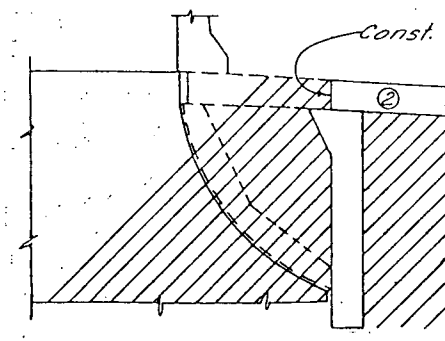
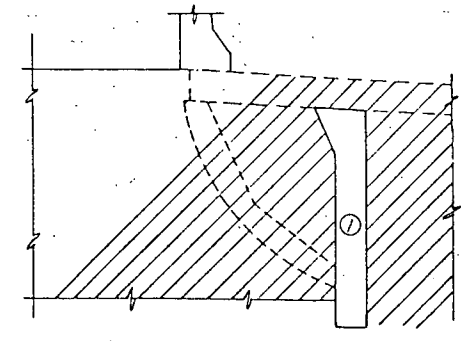
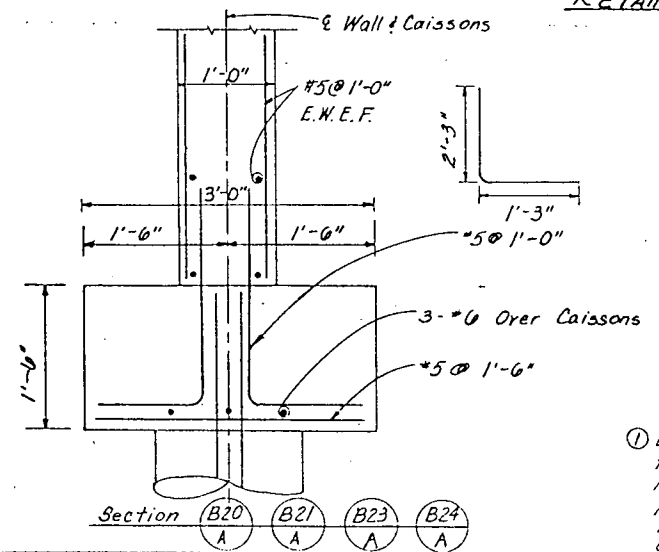
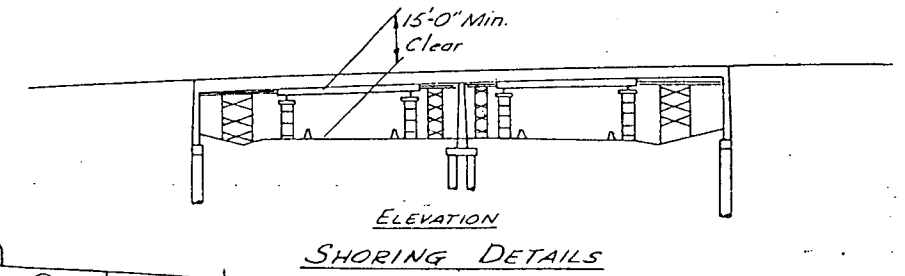
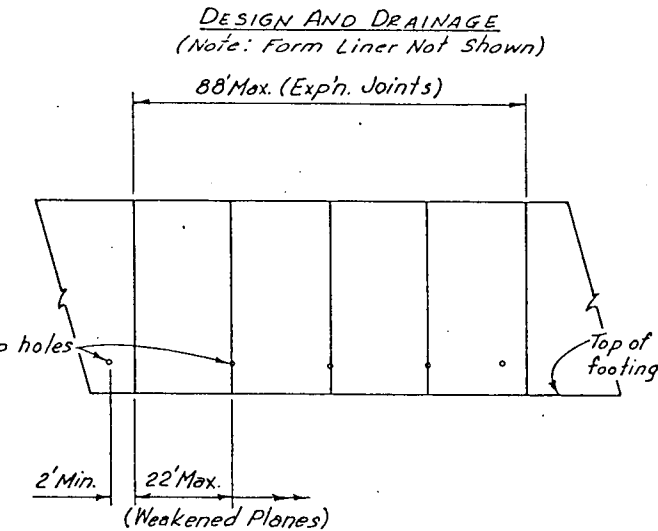
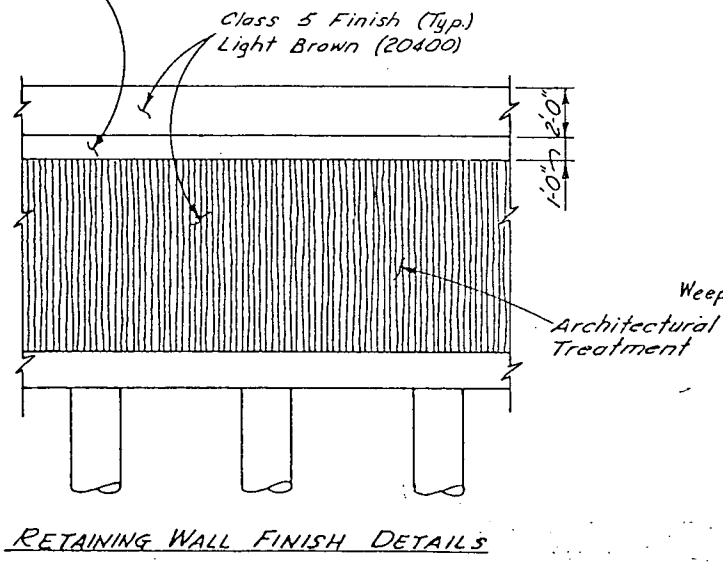
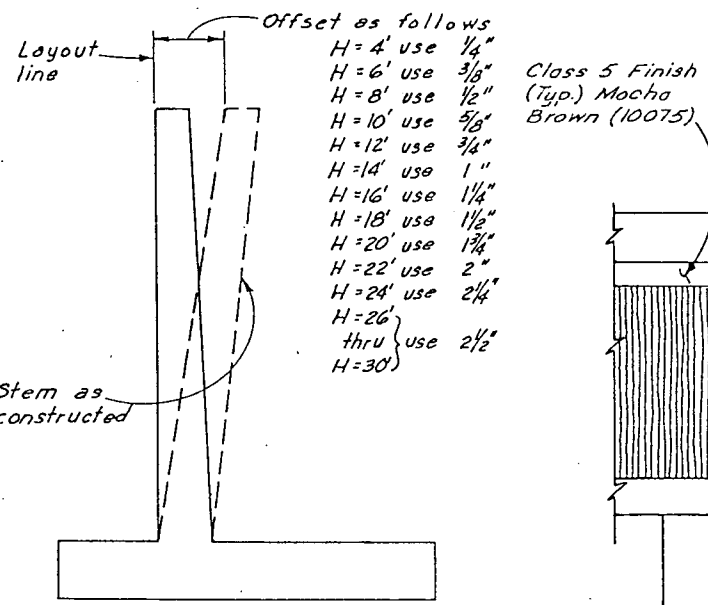
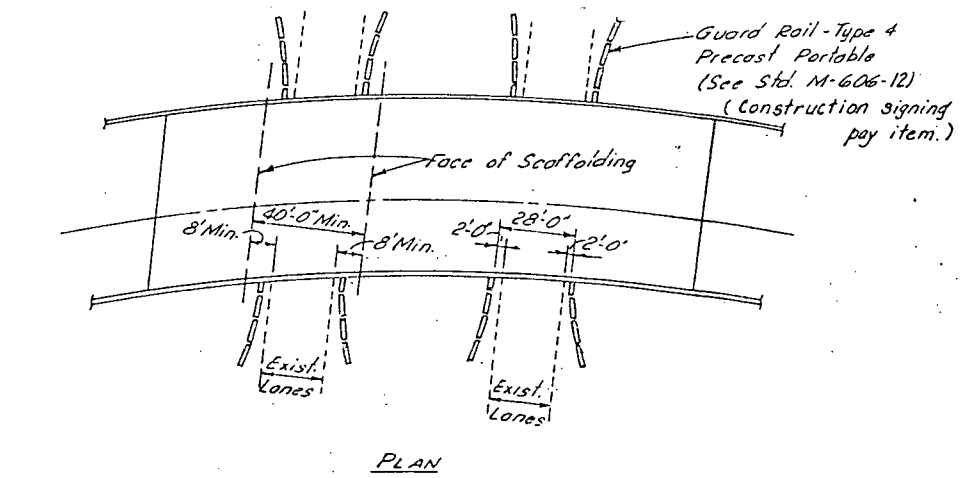
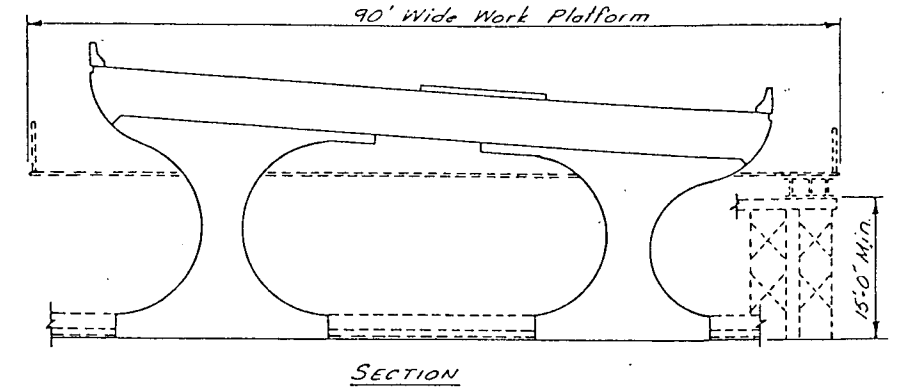
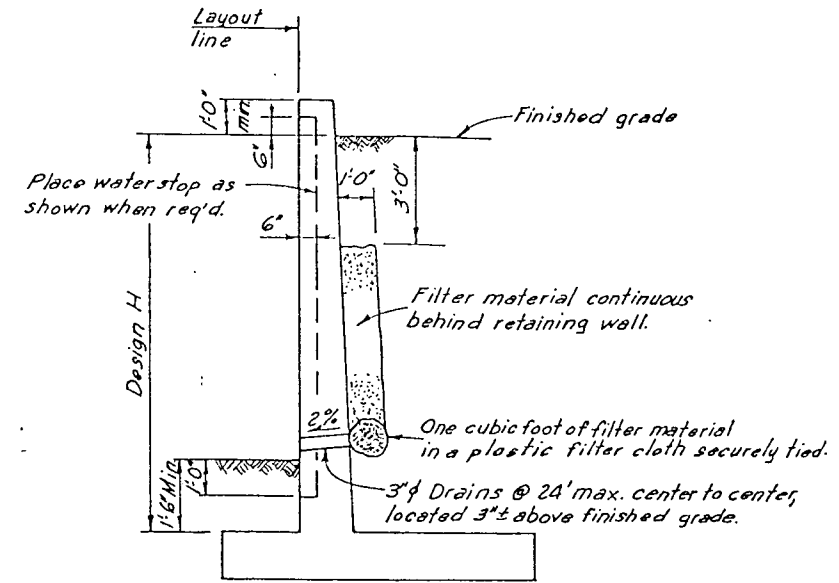
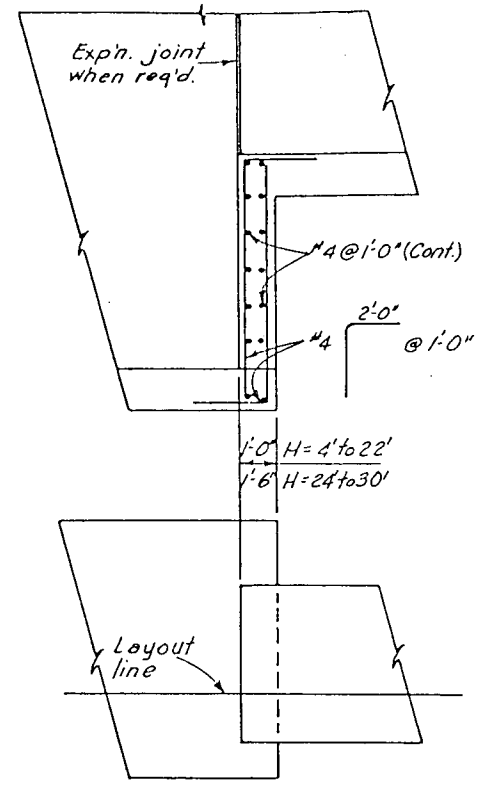
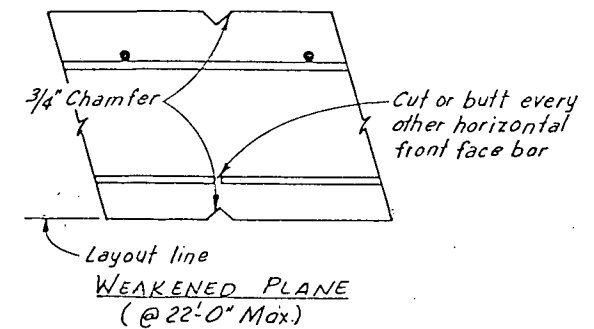
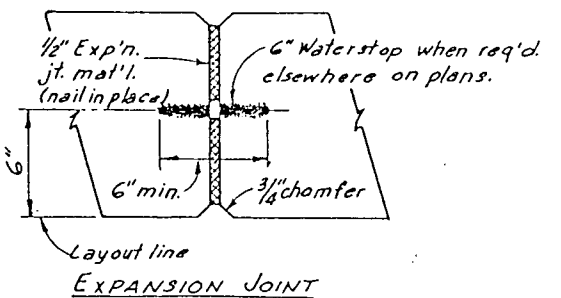
**RETAINING WALL DETAILS**

Designer	A. GRIFFITH	Structure	I-17-1J
Detailer	T. RICK	Numbers	
Drawing Number	B 26	of	30 Drawings

Revision Dates (Preliminary Stage Only)



REVISIONS	



Notes:  
 Contractor may submit another construction procedure however it must be approved by the Engineer.  
 The approach slab is designed as a one way slab between the abut. & the 3' Sleepers slab. the vertical wall & curved fascia are not designed to be load bearing.

4 outside forms of the fascia still in place. 5 Pour the remaining approach slab on each side. 6 After the approach slab has cured for 3 days (Min.) excavate under the vert. wall & place 3' form void. 7 Backfill outside the lower end of vert. wall up to the beginning of the lower end of curved fascia.

URS ENGINEERS - DENVER

DIVISION OF HIGHWAYS	
RETAINING WALL DETAILS SHORING DETAILS	
Designer A. GRIFFITH	Structure I-17-IJ
Detailer T. RICK	Numbers
Drawing Number B27	of 30 Drawings
Revision Dates	(Preliminary Stage Only)

LONGITUDINAL LINE: NORTH OUTSIDE EDGE								LONGITUDINAL LINE: CL OF GIRDER NO. 3												
SLAB END	536-36.3915	-43.5000	6604.6601	427.3008	3502.4283	2072.2453	3684.8649	BF ABUT 1	536-45.3557	-23.0000	6603.6519	444.6369	3488.0473	2156.2867	3671.2414					
BF ABUT 1	536-50.0612	-43.5000	6605.2128	440.2926	3508.6720	2135.2090	3699.2752	CL BRG A1	536-46.3557	-23.0000	6603.6920	445.5676	3488.4894	2160.7905	3672.2701					
CL BRG A1	536-51.0355	-43.5000	6605.2512	441.2225	3509.1085	2139.7190	3700.3026	F-1	536-57.0350	-23.0000	6604.1113	455.5202	3493.1437		3683.2571					
F-1	536-61.4471	-43.5000	6605.6535	451.1940	3513.7022		3711.2814	F-2	536-67.7144	-23.0000	6604.5151	465.5341	3497.6640		3694.2441					
F-2	536-71.8587	-43.5000	6606.0411	461.2246	3518.1654		3722.2602	F-3	536-74.3938	-23.0000	6604.9033	475.6076	3502.0499		3705.2311					
F-3	536-82.2703	-43.5000	6606.4139	471.3125	3522.4975		3733.2390	F-4	536-84.0732	-23.0000	6605.2759	485.7359	3506.3308		3716.2181					
F-4	536-92.6820	-43.5000	6606.7718	481.4560	3526.6978		3744.2178	F-5	536-99.7526	-23.0000	6605.6329	495.9216	3510.4158		3727.2051					
F-5	537-03.0936	-43.5000	6607.1149	491.6534	3530.7653		3755.1946	F-6	537-10.4320	-23.0000	6606.0073	506.1674	3514.3942		3738.1921					
F-6	537-13.5052	-43.5000	6607.4432	501.9030	3534.6996		3766.1755	F-7	537-21.1113	-23.0000	6606.3002	516.4610	3518.2353		3749.1790					
F-7	537-23.9169	-43.5000	6607.7567	512.2030	3538.5000		3777.1543	F-8	537-31.7907	-23.0000	6606.6104	526.8050	3521.9383		3760.1660					
F-8	537-34.3285	-43.5000	6608.0554	522.5517	3542.1657		3788.1331	F-9	537-42.4701	-23.0000	6606.9051	537.1977	3525.5027		3771.1530					
F-9	537-44.7401	-43.5000	6608.3392	532.9473	3545.6961		3799.1119	CL PIER 2	537-53.1495	-23.0000	6607.1842	547.6371	3528.9278	2655.7787	3782.1400					
CL PIER 2	537-55.1517	-43.5000	6608.6093	543.3980	3549.0907	2635.1729	3810.0907	F-1	537-63.8406	-23.0000	6607.4480	558.1329	3532.2165		3793.1391					
F-1	537-65.5819	-43.5000	6608.8629	553.8908	3552.3546		3821.0890	F-2	537-74.5317	-23.0000	6607.6961	568.6718	3535.3643		3804.1381					
F-2	537-76.0120	-43.5000	6609.1027	564.4354	3555.4910		3832.0874	F-3	537-85.2228	-23.0000	6607.9286	579.2519	3538.3708		3815.1372					
F-3	537-86.4421	-43.5000	6609.3277	575.0198	3558.4494		3843.0857	F-4	537-95.9139	-23.0000	6608.1456	589.8713	3541.2354		3826.1362					
F-4	537-96.8722	-43.5000	6609.5377	585.6424	3561.3193		3854.0840	F-5	538-06.6050	-23.0000	6608.3468	600.5281	3543.9576		3837.1355					
F-5	538-07.3024	-43.5000	6609.7329	596.3013	3564.0302		3866.0823	F-6	538-17.2962	-23.0000	6608.5325	611.2204	3546.5368		3848.1343					
F-6	538-17.7225	-43.5000	6609.9133	606.9947	3566.6017		3876.0806	F-7	538-27.9873	-23.0000	6608.7026	621.9462	3549.0726		3859.1334					
F-7	538-28.1626	-43.5000	6610.0787	617.7208	3569.0332		3887.0790	F-8	538-38.6784	-23.0000	6608.8577	632.7037	3551.2646		3870.1325					
F-8	538-39.5927	-43.5000	6610.2293	628.4777	3571.3245		3898.0773	F-9	538-49.3695	-23.0000	6609.0952	643.4910	3553.4124		3881.1315					
F-9	538-49.0229	-43.5000	6610.3650	639.2637	3573.4751		3909.0756	CL BRG A3	538-60.0606	-23.0000	6609.1190	654.3060	3555.4156	3173.0722	3892.1306					
CL BRG A3	538-59.4530	-43.5000	6610.4859	650.0768	3575.4846	3152.5624	3920.0739	BF ABUT 3	538-61.0331	-23.0000	6609.1294	655.2911	3555.5906	3177.8493	3893.1311					
BF ABUT 3	538-69.4019	-43.5000	6610.4962	651.0617	3575.6403	3157.2388	3921.0744													
SLAB END	538-73.6893	-43.5000	6610.2629	664.8763	3577.9991	3224.3332	3935.0854													

LONGITUDINAL LINE: CL OF GIRDER NO. 1							
BF ABUT 1	536-49.2746	-40.0000	6604.9471	441.0342	3505.1527	2138.2055	3694.4895
CL BRG A1	536-50.2531	-40.0000	6604.9858	441.9640	3505.5903	2143.3145	3695.5170
F-1	536-60.7195	-40.0000	6605.3910	451.9323	3510.1940		3706.4972
F-2	536-71.1659	-40.0000	6605.7813	461.9601	3514.6668		3717.4773
F-3	536-81.6222	-40.0000	6606.1566	472.0456	3519.0079		3728.4575
F-4	536-92.0786	-40.0000	6606.5169	482.1870	3523.2166		3739.4377
F-5	537-02.5350	-40.0000	6606.8624	492.3828	3527.2921		3750.4178
F-6	537-12.9914	-40.0000	6607.1929	502.6310	3531.2357		3761.3980
F-7	537-23.4477	-40.0000	6607.5084	512.9299	3535.0409		3772.3782
F-8	537-33.9041	-40.0000	6607.8090	523.2778	3538.7128		3783.3583
F-9	537-44.3605	-40.0000	6608.0946	533.6729	3542.2489		3794.3385
CL PIER 2	537-54.8169	-40.0000	6608.3653	544.1134	3545.6486	2638.6906	3805.3187
F-1	537-65.2906	-40.0000	6608.6215	554.6150	3548.9167		3816.2989
F-2	537-75.7644	-40.0000	6608.8627	565.1586	3552.0466		3827.2791
F-3	537-86.2382	-40.0000	6609.0889	575.7423	3555.0391		3838.2593
F-4	537-96.7120	-40.0000	6609.3001	586.3644	3557.8904		3849.2395
F-5	538-07.1857	-40.0000	6609.4963	597.0230	3560.6032		3860.2197
F-6	538-17.6595	-40.0000	6609.6776	607.7162	3563.1760		3871.1999
F-7	538-28.1333	-40.0000	6609.8438	618.4422	3565.6043		3882.1799
F-8	538-38.6071	-40.0000	6609.9950	629.1992	3567.8996		3893.1599
F-9	538-49.0809	-40.0000	6610.1313	639.9854	3570.0497		3904.1397
CL BRG A3	538-59.5546	-40.0000	6610.2525	650.7958	3572.0582	3156.6640	3915.1195
BF ABUT 3	538-60.5074	-40.0000	6610.2628	651.7839	3572.2339	3160.6406	3916.1036

LONGITUDINAL LINE: CL OF GIRDER NO. 2							
BF ABUT 1	536-47.3353	-31.5000	6604.3006	442.8360	3496.5025	2147.5436	3682.8660
CL BRG A1	536-48.3249	-31.5000	6604.3400	443.7853	3497.0425	2152.0499	3683.8942
F-1	536-59.8916	-31.5000	6604.7521	453.7259	3501.8719		3694.8777
F-2	536-69.4583	-31.5000	6605.1491	463.7468	3506.1673		3705.8612
F-3	536-80.0250	-31.5000	6605.5307	473.8263	3510.5306		3716.8447
F-4	536-90.5917	-31.5000	6605.8971	483.9627	3514.7602		3727.8283
F-5	537-01.1583	-31.5000	6606.2492	494.1542	3518.8552		3738.8118
F-6	537-11.7250	-31.5000	6606.5341	504.3990	3522.8151		3749.7953
F-7	537-22.2917	-31.5000	6606.7947	514.6953	3526.6390		3760.7788
F-8	537-32.8584	-31.5000	6607.0201	525.0413	3530.3263		3771.7623
F-9	537-43.4251	-31.5000	6607.2102	535.4352	3533.8764		3782.7459
CL PIER 2	537-53.9917	-31.5000	6607.3750	545.8752	3537.2887	2647.2342	3793.7294
F-1	537-64.5731	-31.5000	6607.5050	556.3739	3540.5669		3804.7128
F-2	537-75.1544	-31.5000	6607.5996	566.9152	3543.7057		3815.6963
F-3	537-85.7357	-31.5000	6607.6589	577.4971	3546.7046		3826.6798
F-4	537-96.3171	-31.5000	6607.7229	588.1178	3549.5630		3837.6634
F-5	538-06.8984	-31.5000	6607.7921	598.7755	3552.2804		3848.6469
F-6	538-17.4797	-31.5000	6607.8669	609.4683	3554.8564		3859.6304
F-7	538-28.0610	-31.5000	6607.9466	620.1942	3557.2904		3870.6139
F-8	538-38.6424	-31.5000	6608.0312	630.9515	3559.5821		3881.5974
F-9	538-49.2237	-31.5000	6608.1205	641.7382	3561.7311		3892.5809
CL BRG A3	538-59.8050	-31.5000	6608.2137	652.5524	3563.7369	3164.5681	3903.5644
BF ABUT 3	538-60.7676	-31.5000	6608.2711	653.5374	3563.9123	3169.2449	3904.5479

LONGITUDINAL LINE: CL OF GIRDER NO. 4							
BF ABUT 1	536-43.3330	-14.5000	6603.3000	446.4429	3479.4868	2165.0352	3659.6155
CL BRG A1	536-44.3440	-14.5000	6603.0417	447.3710	3479.9320	2169.5363	3660.6449
F-1	536-55.1396	-14.5000	6603.4685	457.3154	3484.6117		3671.6354
F-2	536-65.9351	-14.5000	6603.8793	467.3222	3489.1565		3682.6260
F-3	536-76.7277	-14.5000	6604.2743	477.3895	3493.9657		3693.6166
F-4	536-87.5222	-14.5000	6604.6533	487.5154	3497.8383		3704.6071
F-5	536-98.3168	-14.5000	6605.0163	497.6962	3501.9737		3715.5977
F-6	537-09.1113	-14.5000	6605.3635	507.9360	3505.9711		3726.5883
F-7	537-19.9059	-14.5000	6605.6947	518.2269	3509.8297		3737.5789
F-8	537-30.7004	-14.5000	6606.0100	528.5689	3513.5489		3748.5694
F-9	537-41.4950	-14.5000	6606.3093	538.9604	3517.1275		3759.5600
CL PIER 2	537-52.2955	-14.5000	6606.5928	549.3992	3520.5660	2664.3242	3770.5505
F-1	537-63.0927	-14.5000	6606.8605	559.8920	3523.8653		3781.5499
F-2	537-73.8895	-14.5000	6607.1123	570.4285	3527.0224		3792.5493
F-3	537-84.6991	-14.5000	6607.3481	581.0067	3530.0367		3803.5487
F-4	537-95.5023	-14.5000	6607.5650	591.6			

BENT LINE DESCRIPTION OR FRACTIONAL POINT DESIGNATION	STATION	OFFSET	ELEVATION	COORDINATES FROM LAYOUT LINE		BENT LINE LENGTH FROM Y-AXIS OR OFFSET FROM EXTERIOR GIRDER	GIRDER LINE LENGTH	BENT LINE DESCRIPTION OR FRACTIONAL POINT DESIGNATION	STATION	OFFSET	ELEVATION	COORDINATES FROM LAYOUT LINE		BENT LINE LENGTH FROM Y-AXIS OR OFFSET FROM EXTERIOR GIRDER	GIRDER LINE LENGTH
				OFFSET X	ORDINATE Y							OFFSET X	ORDINATE Y		
LONGITUDINAL LINE: CL OF GIRDER NO. 7								LONGITUDINAL LINE: SOUTH OUTSIDE EDGE							
BF ABUT 1	536+36.9947	11.0000	6601.0336	451.8619	3453.7725	2191.2143	2624.7298	SLAB END	536+14.4939	31.5000	6598.7847	443.3086	3426.4663	2145.8352	3592.1707
CL BRG A1	536+35.0405	11.0000	6601.0767	452.7362	3454.2259	2195.8069	2625.7612	BF ABUT 1	536+31.5835	31.5000	6598.4347	456.2263	3433.6617	2212.4820	3596.6747
F-1	536+49.1962	11.0000	6601.5275	462.7068	3458.9267		2636.7632	CL BRG A1	536+37.6592	31.5000	6598.4796	457.1512	3433.5221	2216.9655	3597.7079
F-2	536+60.3519	11.0000	6601.9604	472.6969	3463.6034		2647.7652	F-1	536+44.1235	31.5000	6598.9409	467.0475	3438.3521		3604.7200
F-3	536+71.5376	11.0000	6602.3769	472.7366	3468.0902		2658.7673	F-2	536+55.5779	31.5000	6600.4039	477.0120	3443.0396		3619.7321
F-4	536+82.6633	11.0000	6602.7761	492.8475	3472.4312		2669.7693	F-3	536+67.0523	31.5000	6600.8393	487.0429	3447.5835		3630.7443
F-5	536+93.8190	11.0000	6603.1555	503.0169	3476.6306		2680.7713	F-4	536+78.5167	31.5000	6601.2562	497.1379	3451.9229		3641.7564
F-6	537+04.9747	11.0000	6603.5238	513.2435	3480.6274		2691.7733	F-5	536+89.9910	31.5000	6601.6654	507.2951	3456.2369		3652.7685
F-7	537+16.1304	11.0000	6603.8721	523.5259	3484.6010		2702.7754	F-6	537+01.4454	31.5000	6602.0366	517.5123	3460.3447		3663.7806
F-8	537+27.2862	11.0000	6604.2035	533.9619	3488.3736		2713.7774	F-7	537+12.9698	31.5000	6602.3599	527.7874	3464.3053		3674.7928
F-9	537+38.4419	11.0000	6604.5175	544.2495	3491.9954		2724.7794	F-8	537+24.3742	31.5000	6602.7451	538.1183	3468.1181		3685.8049
CL PIER 2	537+49.5976	11.0000	6604.8151	554.6668	3495.4743	2689.5665	2735.7815	F-9	537+35.3385	31.5000	6603.0725	548.5029	3471.7321		3696.8170
F-1	537+60.7516	11.0000	6605.0954	565.1731	3498.8075		2746.7835	CL PIER 2	537+47.3029	31.5000	6603.3819	558.9390	3475.2967	2710.2878	3707.8291
F-2	537+71.9057	11.0000	6605.3594	575.4990	3501.9935		2757.7855	F-1	537+55.7960	31.5000	6603.7560	569.4142	3478.6578		3718.8404
F-3	537+83.0597	11.0000	6605.6049	586.2713	3505.0320		2768.7875	F-2	537+79.2091	31.5000	6603.9462	579.9365	3481.8684		3729.8517
F-4	537+94.2138	11.0000	6605.8341	596.8850	3507.9226		2779.7895	F-3	537+91.6622	31.5000	6604.2014	590.5039	3484.9277		3740.8631
F-5	538+05.3679	11.0000	6606.0464	607.5381	3510.6647		2790.7915	F-4	537+93.1154	31.5000	6604.4369	601.1139	3487.8351		3751.8744
F-6	538+16.5219	11.0000	6606.2416	618.2284	3513.2577		2801.7935	F-5	538+04.5685	31.5000	6604.6592	611.7645	3490.5900		3762.8857
F-7	538+27.6760	11.0000	6606.4198	628.9539	3515.7011		2812.7955	F-6	538+16.5215	31.5000	6604.8597	622.4536	3493.1920		3773.8970
F-8	538+38.8300	11.0000	6606.5511	639.7125	3517.9945		2823.7975	F-7	538+27.4747	31.5000	6605.0433	633.1769	3495.6403		3784.9083
F-9	538+49.9841	11.0000	6606.7253	650.5021	3520.1374		2834.7995	F-8	538+38.9276	31.5000	6605.2099	643.9353	3497.9345		3795.9196
CL BRG A3	538+61.1382	11.0000	6606.8525	661.3206	3522.1293	3207.0895	2845.7855	F-9	538+50.3709	31.5000	6605.3566	654.7294	3500.0742		3806.9309
BF ABUT 3	538+62.1527	11.0000	6606.9633	662.3059	3522.3330	3211.8680	2846.7661	CL BRG A3	538+61.5340	31.5000	6605.4864	665.5501	3502.3590	3227.6007	3817.9422
BF ABUT 3	538+62.1527	11.0000	6606.9633	662.3059	3522.3330	3211.8680	2846.7661	BF ABUT 3	538+62.6757	31.5000	6605.4973	666.5356	3502.2318	3232.2601	3818.9422
SLAB END	538+77.4649	31.5000	6605.6346	680.3616	3504.5168		2857.9565	SLAB END	538+77.4649	31.5000	6605.6346	680.3616	3504.5168		2857.9565
LONGITUDINAL LINE: CL OF GIRDER NO. 2								LONGITUDINAL LINE: SOUTH OUTSIDE EDGE							
BF ABUT 1	536+34.7567	19.5000	6607.3726	453.6705	3445.1895	2200.0858	3613.0983	BF ABUT 1	536+34.7567	19.5000	6607.3726	453.6705	3445.1895	2200.0858	3613.0983
CL BRG A1	536+35.8447	19.5000	6607.4165	454.5964	3445.6457	2204.5756	3614.1301	CL BRG A1	536+35.8447	19.5000	6607.4165	454.5964	3445.6457	2204.5756	3614.1301
F-1	536+47.1263	19.5000	6608.8753	464.5058	3450.4347		3625.1365	F-1	536+47.1263	19.5000	6608.8753	464.5058	3450.4347		3625.1365
F-2	536+58.4079	19.5000	6609.3164	474.4820	3455.0533		3636.1426	F-2	536+58.4079	19.5000	6609.3164	474.4820	3455.0533		3636.1426
F-3	536+69.6536	19.5000	6609.7406	484.5228	3459.5904		3647.1486	F-3	536+69.6536	19.5000	6609.7406	484.5228	3459.5904		3647.1486
F-4	536+80.9712	19.5000	6609.1471	494.6263	3463.9552		3658.1549	F-4	536+80.9712	19.5000	6609.1471	494.6263	3463.9552		3658.1549
F-5	536+92.2528	19.5000	6609.5363	504.7925	3468.1769		3669.1610	F-5	536+92.2528	19.5000	6609.5363	504.7925	3468.1769		3669.1610
F-6	537+03.5344	19.5000	6609.9081	515.0133	3472.2545		3680.1671	F-6	537+03.5344	19.5000	6609.9081	515.0133	3472.2545		3680.1671
F-7	537+14.3160	19.5000	6609.2625	525.2927	3476.1873		3691.1732	F-7	537+14.3160	19.5000	6609.2625	525.2927	3476.1873		3691.1732
F-8	537+26.0976	19.5000	6609.5995	535.6266	3479.9745		3702.1793	F-8	537+26.0976	19.5000	6609.5995	535.6266	3479.9745		3702.1793
F-9	537+37.3792	19.5000	6609.9191	546.7130	3483.6153		3713.1854	F-9	537+37.3792	19.5000	6609.9191	546.7130	3483.6153		3713.1854
CL PIER 2	537+48.6609	19.5000	6604.2213	556.4497	3487.1090	2698.5160	3724.1916	CL PIER 2	537+48.6609	19.5000	6604.2213	556.4497	3487.1090	2698.5160	3724.1916
F-1	537+59.9370	19.5000	6604.5060	566.9299	3490.4533		3735.1923	F-1	537+59.9370	19.5000	6604.5060	566.9299	3490.4533		3735.1923
F-2	537+71.2131	19.5000	6604.7733	577.4559	3493.6493		3746.1931	F-2	537+71.2131	19.5000	6604.7733	577.4559	3493.6493		3746.1931
F-3	537+82.4893	19.5000	6605.0222	588.0262	3496.6564		3757.1939	F-3	537+82.4893	19.5000	6605.0222	588.0262	3496.6564		3757.1939
F-4	537+93.7654	19.5000	6605.2557	598.6364	3499.5938		3768.1946	F-4	537+93.7654	19.5000	6605.2557	598.6364	3499.5938		3768.1946
F-5	538+05.0416	19.5000	6605.4709	609.2905	3502.3412		3779.1954	F-5	538+05.0416	19.5000	6605.4709	609.2905	3502.3412		3779.1954
F-6	538+16.3177	19.5000	6605.6687	619.9804	3504.9376		3790.1962	F-6	538+16.3177	19.5000	6605.6687	619.9804	3504.9376		3790.1962
F-7	538+27.5938	19.5000	6605.8491	630.7058	3507.3932		3801.1970	F-7	538+27.5938	19.5000	6605.8491	630.7058	3507.3932		3801.1970
F-8	538+38.8700	19.5000	6606.0121	641.4647	3509.6770		3812.1977	F-8	538+38.8700	19.5000	6606.0121	641.4647	3509.6770		3812.1977
F-9	538+50.1461	19.5000	6606.1578	652.2549	3511.8185		3823.1985	F-9	538+50.1461	19.5000	6606.1578	652.2549	3511.8185		3823.1985
CL BRG A3	538+61.4223	19.5000	6606.2861	663.0743	3513.8075	3215.5941	3834.1993	CL BRG A3	538+61.4223	19.5000	6606.2861	663.0743	3513.8075	3215.5941	3834.1993
BF ABUT 3	538+62.4479	19.5000	6606.2861	664.0597	3513.8075	3220.3730	3835.1998	BF ABUT 3	538+62.4479	19.5000	6606.2861	664.0597	3513.8075	3220.3730	3835.1998
LONGITUDINAL LINE: CL OF GIRDER NO. 5								LONGITUDINAL LINE: SOUTH OUTSIDE EDGE							
BF ABUT 1	536+32.5284	28.0000	6595.7028	455.4806	3436.6002	2208.8637	3601.4652	BF ABUT 1	536+32.5284	28.0000	6595.7028	455.4806	3436.6002	2208.8637	3601.4652
CL BRG A1	536+33.5989	28.0000	6599.7536	456.4058	3437.0595	2213.3504	3602.4991	CL BRG A1	536+33.5989	28.0000	6599.7536	456.4058	3437.0595	2213.3504	3602.4991
F-1	536+45.0093	28.0000	6600.2210	466.3059	3441.3774		3613.5025	F-1	536+45.0093	28.0000	6600.2210	466.3059	3441.3774		3613.5025
F-2	536+56.4196	28.0000	6600.6706	476.2739	3446.5533		3624.5128	F-2	536+56.4196	28.0000	6600.6706	476.2739	3446.5533		3624.5128
F-3	536+67.8302	28.0000	6601.1024	486.3077	3451.0864		3635.5291	F-3	536+67.8302	28.0000	6601.1024	486.3077	3451.0864		3635.5291
F-4	536+79.2407	28.0000	6601.5164	496.4253	3455.4756		3646.5395	F-4	536+79.2407	28.0000	6601.5164	496.4253	3455.4756		3646.5395
F-5	536+90.6511	28.0000	6601.9126	506.5645	3459.7201		3657.5496	F-5	536+90.6511	28.0000	6601.9126	506.5645	3459.7201		3657.5496
F-6	537+02.0616	28.0000	6602.2911	516.7833	3463.8190		3668.5602	F-6	537+02.0616	28.0000	6602.2911	516.7833	3463.8190		3668.5602
F-7	537+13.4720	28.0000	6602.6517	527.0597	3467.7714		3679.5705	F-7	537+13.4720	28.0000	6602.6517	527.0597	3467.7714		3679.5705
F-8	537+24.8825	28.0000	6602.9945	537.3915	3471.5766		3690.5808	F-8	537+24.8825	28.0000	6602.9945	537.3915	3471.5766		3690.5808
F-9	537+36.2929	28.0000	6603.3196	547.7766	3475.2338		3701.5912	F-9	537+36.2929	28.0000	6603.3196	547.7766</			

AS CONSTRUCTED  NO REVISIONS  B-17-B7 REVISED  VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC04-0025-19	68	

# ROADWAY APPROACHES

ELEVATIONS ARE AT FINISHED GRADE

REVISIONS	

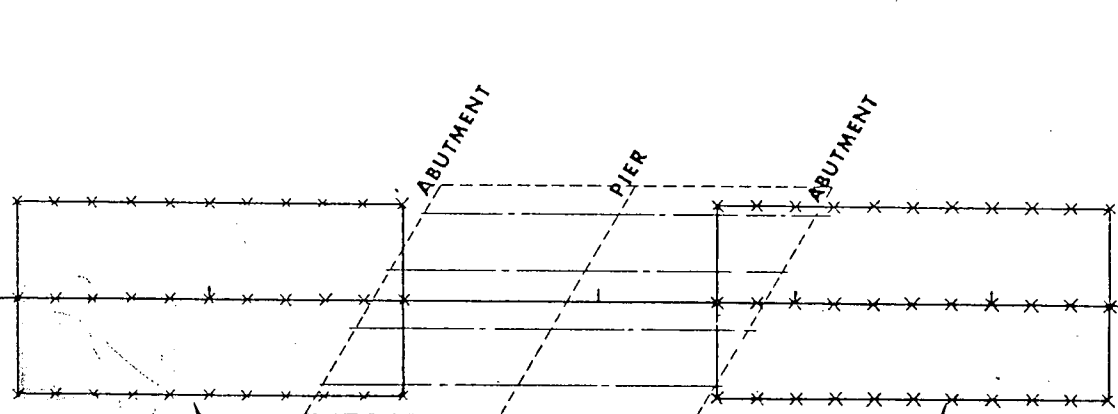
BRIDGE STANDARD 1

ELEVATIONS ON ROADWAY APPROACHES (AT FINISHED GRADE)

STATION	OFFSETS						
	-43.5000	-42.0000	-7.0000	0.0000	7.0000	30.0000	31.5000
534+50.0	6594.91	6594.81	6592.47	6592.00	6591.53	6589.99	6589.89
+60.0	95.51	95.41	93.07	92.60	92.13	90.59	90.49
+70.0	96.11	96.01	93.67	93.20	92.73	91.19	91.09
+80.0	96.71	96.61	94.27	93.80	93.33	91.79	91.69
534+90.0	6597.31	6597.21	6594.87	6594.40	6593.93	6592.39	6592.29
+60.0	97.91	97.81	95.47	95.00	94.53	92.99	92.89
+70.0	98.51	98.41	96.06	95.59	95.12	93.58	93.48
+80.0	99.09	98.99	96.64	96.17	95.70	94.16	94.06
535+30.0	6599.65	6599.55	6597.21	6596.74	6596.27	6594.73	6594.63
+60.0	00.21	00.10	97.76	97.29	96.82	95.28	95.18
+70.0	00.74	00.64	98.30	97.83	97.36	95.82	95.72
+80.0	01.27	01.17	98.82	98.35	97.89	96.34	96.24
535+70.0	6601.78	6601.68	6599.33	6598.87	6598.40	6596.86	6596.75
+60.0	02.28	02.18	99.83	99.36	98.89	97.35	97.25
+70.0	02.76	02.66	00.32	99.85	99.38	97.84	97.74
+80.0	03.23	03.13	00.79	00.32	99.85	98.31	98.21

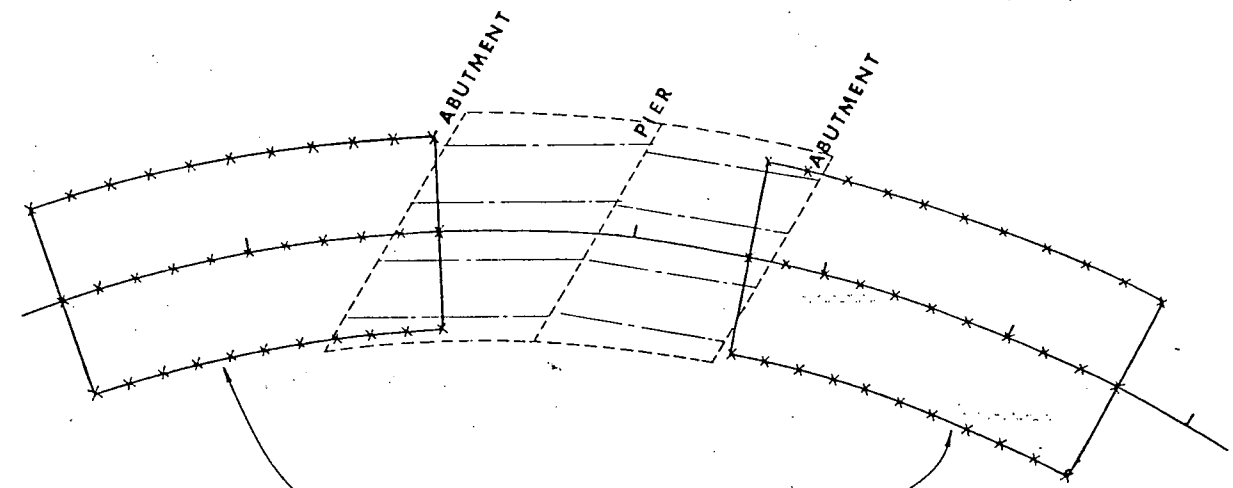
ELEVATIONS ON ROADWAY APPROACHES (AT FINISHED GRADE)

STATION	OFFSETS						
	-43.5000	-42.0000	-7.0000	0.0000	7.0000	30.0000	31.5000
538+90.0	6610.42	6610.32	6608.48	6608.01	6607.54	6606.00	6605.90
+60.0	10.98	10.88	08.54	08.07	07.60	06.06	05.96
+70.0	11.03	10.93	08.59	08.11	07.64	06.10	06.00
+80.0	11.06	10.96	08.62	08.15	07.68	06.14	06.04
539+30.0	6611.08	6610.98	6608.63	6608.17	6607.70	6606.16	6606.05
+60.0	11.09	10.98	08.64	08.17	07.70	06.16	06.06
+70.0	11.08	10.98	08.63	08.16	07.69	06.15	06.05
+80.0	11.06	10.95	08.61	08.14	07.67	06.13	06.03
539+70.0	6611.02	6610.92	6608.57	6608.11	6607.64	6606.10	6605.99
+60.0	10.97	10.87	08.53	08.06	07.59	06.05	05.95
+70.0	10.91	10.81	08.46	07.99	07.52	05.98	05.88
+80.0	10.53	10.73	08.39	07.92	07.45	05.91	05.81
540+00.0	6610.74	6610.64	6608.30	6607.83	6607.36	6605.82	6605.72
+60.0	10.64	10.54	08.19	07.72	07.25	05.71	05.61
+70.0	10.52	10.42	08.07	07.61	07.14	05.60	05.49
+80.0	10.39	10.29	07.94	07.47	07.01	05.46	05.36



ROADWAY APPROACHES

\* TANGENT ALIGNMENT



ROADWAY APPROACHES

\* HORIZONTAL CURVE ALIGNMENT

\* THESE DRAWINGS ARE SCHEMATICS ONLY AND DO NOT NECESSARILY REFLECT THE ACTUAL BRIDGE LAYOUT.

**DIVISION OF HIGHWAYS**

**ROADWAY APPROACHES**

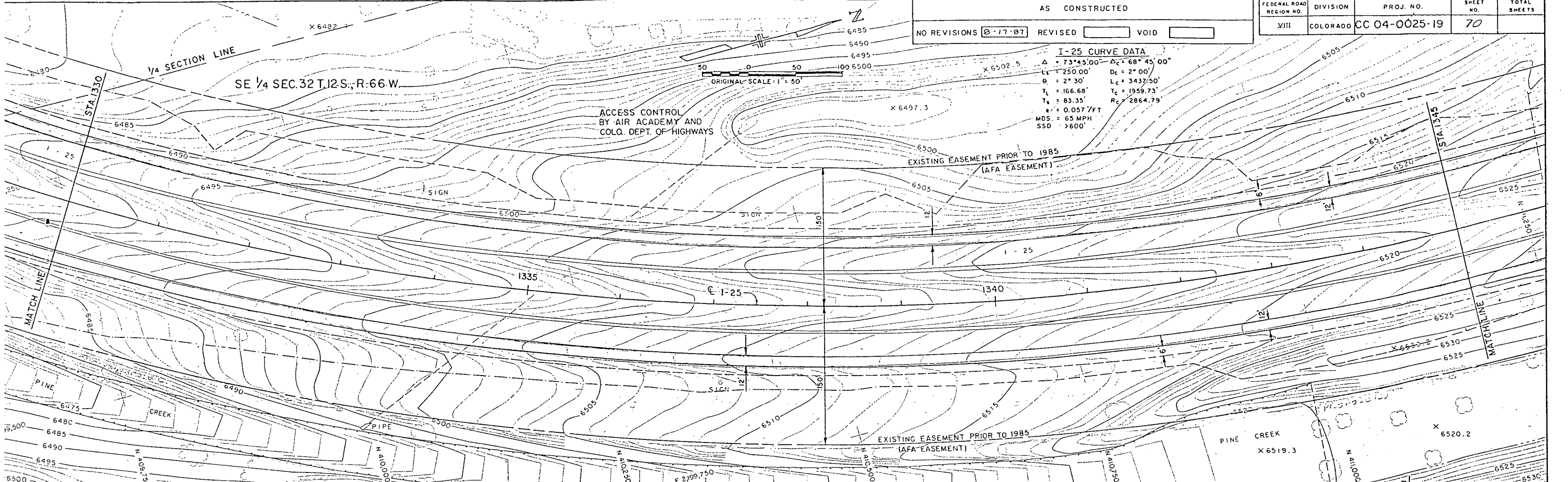
Designer R. BORDEN	Structure I-17-IJ
Detailer T. RICK	Numbers
Drawing Number B30	of 30 Drawings

Revision Dates (Preliminary Stage Only)

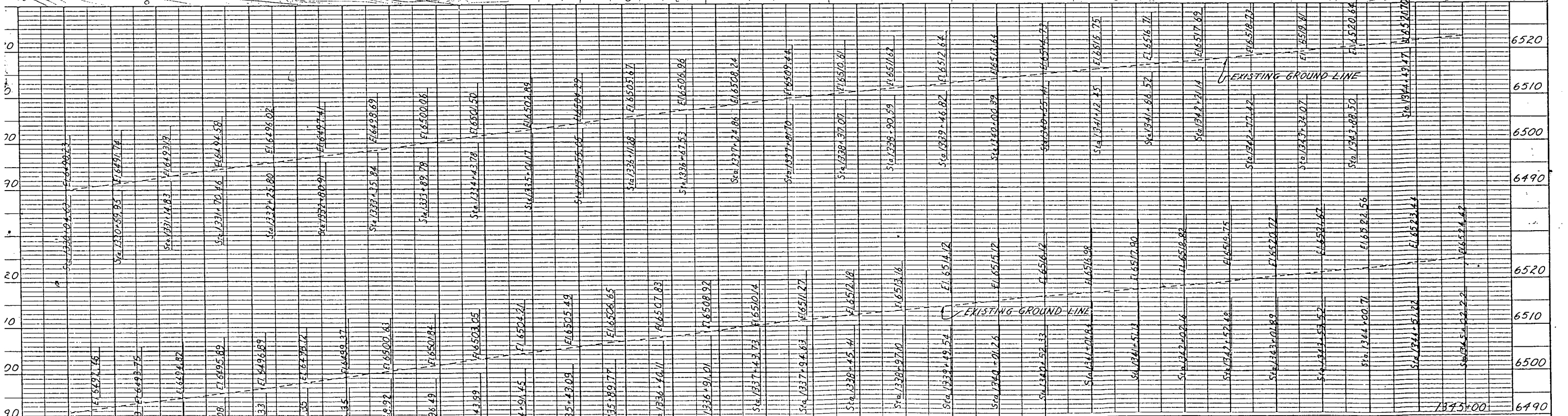


AS CONSTRUCTED  
 NO REVISIONS [B-17-87] REVISED [ ] VOID [ ]

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	70	

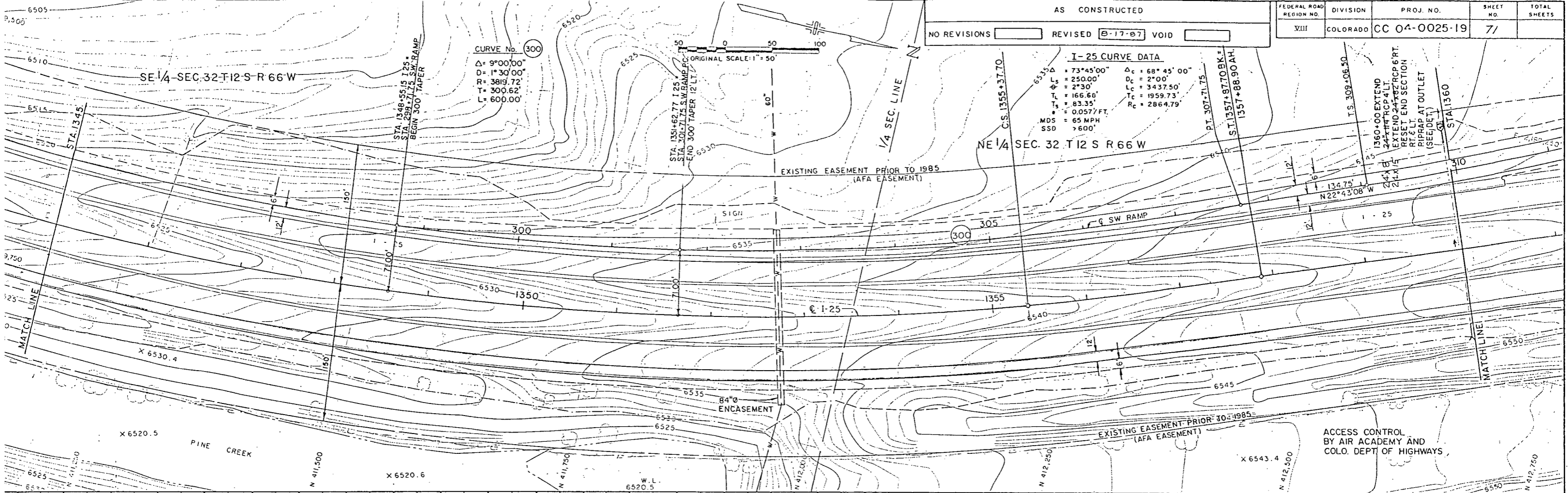


**I-25 CURVE DATA**  
 $\Delta = 73^\circ 45' 00''$   $\Delta_c = 68^\circ 45' 00''$   
 $L_c = 250.00'$   $D_c = 2^\circ 00'$   
 $\theta = 2^\circ 30'$   $L_c = 3437.50'$   
 $T_L = 166.68'$   $T_c = 1959.73'$   
 $T_R = 83.35'$   $R_c = 2864.79'$   
 $e = 0.057 \text{ /FT}$   
 MDS = 65 MPH  
 SSD > 600'



**I 25/BRIARGATE PARKWAY INTERCHANGE  
 PLAN & PROFILE**

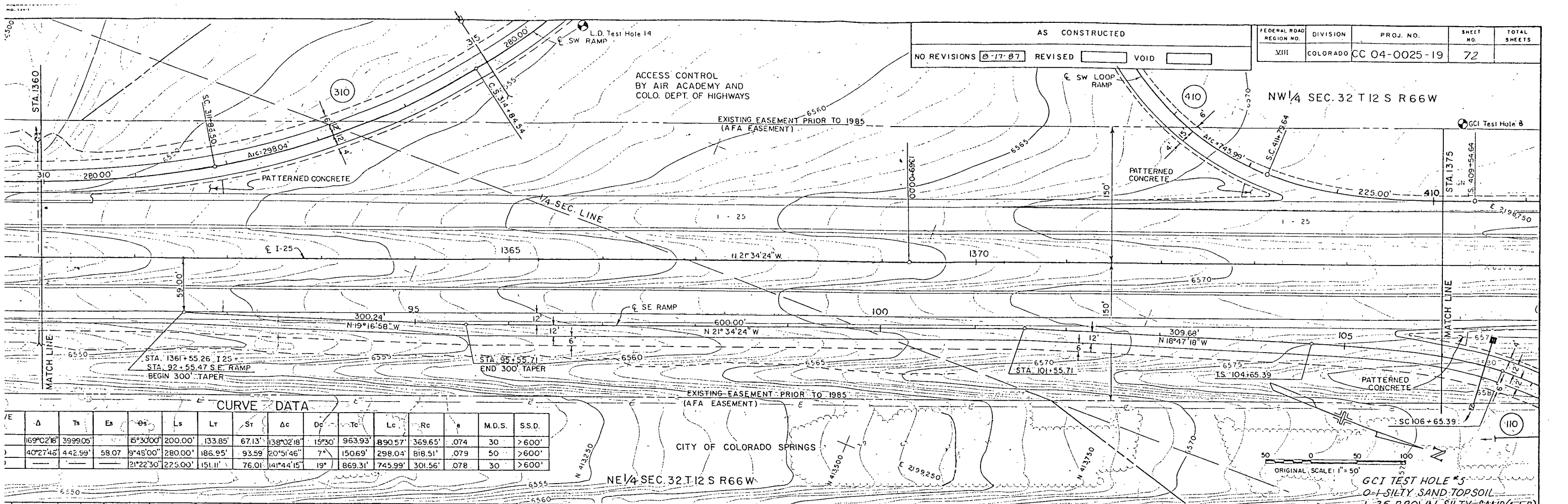
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	



0	Sta. 1345+00.00	El. 6552.77	6550
10	Sta. 1345+00.00	El. 6552.77	6540
20	Sta. 1345+00.00	El. 6552.77	6530
30	Sta. 1345+00.00	El. 6552.77	6520
40	Sta. 1345+00.00	El. 6552.77	6510
50	Sta. 1345+00.00	El. 6552.77	6500
60	Sta. 1345+00.00	El. 6552.77	6490
70	Sta. 1345+00.00	El. 6552.77	6480
80	Sta. 1345+00.00	El. 6552.77	6470
90	Sta. 1345+00.00	El. 6552.77	6460
100	Sta. 1345+00.00	El. 6552.77	6450
110	Sta. 1345+00.00	El. 6552.77	6440
120	Sta. 1345+00.00	El. 6552.77	6430
130	Sta. 1345+00.00	El. 6552.77	6420
140	Sta. 1345+00.00	El. 6552.77	6410
150	Sta. 1345+00.00	El. 6552.77	6400
160	Sta. 1345+00.00	El. 6552.77	6390
170	Sta. 1345+00.00	El. 6552.77	6380
180	Sta. 1345+00.00	El. 6552.77	6370
190	Sta. 1345+00.00	El. 6552.77	6360
200	Sta. 1345+00.00	El. 6552.77	6350
210	Sta. 1345+00.00	El. 6552.77	6340
220	Sta. 1345+00.00	El. 6552.77	6330
230	Sta. 1345+00.00	El. 6552.77	6320
240	Sta. 1345+00.00	El. 6552.77	6310
250	Sta. 1345+00.00	El. 6552.77	6300
260	Sta. 1345+00.00	El. 6552.77	6290
270	Sta. 1345+00.00	El. 6552.77	6280
280	Sta. 1345+00.00	El. 6552.77	6270
290	Sta. 1345+00.00	El. 6552.77	6260
300	Sta. 1345+00.00	El. 6552.77	6250
310	Sta. 1345+00.00	El. 6552.77	6240
320	Sta. 1345+00.00	El. 6552.77	6230
330	Sta. 1345+00.00	El. 6552.77	6220
340	Sta. 1345+00.00	El. 6552.77	6210
350	Sta. 1345+00.00	El. 6552.77	6200
360	Sta. 1345+00.00	El. 6552.77	6190
370	Sta. 1345+00.00	El. 6552.77	6180
380	Sta. 1345+00.00	El. 6552.77	6170
390	Sta. 1345+00.00	El. 6552.77	6160
400	Sta. 1345+00.00	El. 6552.77	6150
410	Sta. 1345+00.00	El. 6552.77	6140
420	Sta. 1345+00.00	El. 6552.77	6130
430	Sta. 1345+00.00	El. 6552.77	6120
440	Sta. 1345+00.00	El. 6552.77	6110
450	Sta. 1345+00.00	El. 6552.77	6100
460	Sta. 1345+00.00	El. 6552.77	6090
470	Sta. 1345+00.00	El. 6552.77	6080
480	Sta. 1345+00.00	El. 6552.77	6070
490	Sta. 1345+00.00	El. 6552.77	6060
500	Sta. 1345+00.00	El. 6552.77	6050
510	Sta. 1345+00.00	El. 6552.77	6040
520	Sta. 1345+00.00	El. 6552.77	6030
530	Sta. 1345+00.00	El. 6552.77	6020
540	Sta. 1345+00.00	El. 6552.77	6010
550	Sta. 1345+00.00	El. 6552.77	6000
560	Sta. 1345+00.00	El. 6552.77	5990
570	Sta. 1345+00.00	El. 6552.77	5980
580	Sta. 1345+00.00	El. 6552.77	5970
590	Sta. 1345+00.00	El. 6552.77	5960
600	Sta. 1345+00.00	El. 6552.77	5950
610	Sta. 1345+00.00	El. 6552.77	5940
620	Sta. 1345+00.00	El. 6552.77	5930
630	Sta. 1345+00.00	El. 6552.77	5920
640	Sta. 1345+00.00	El. 6552.77	5910
650	Sta. 1345+00.00	El. 6552.77	5900
660	Sta. 1345+00.00	El. 6552.77	5890
670	Sta. 1345+00.00	El. 6552.77	5880
680	Sta. 1345+00.00	El. 6552.77	5870
690	Sta. 1345+00.00	El. 6552.77	5860
700	Sta. 1345+00.00	El. 6552.77	5850
710	Sta. 1345+00.00	El. 6552.77	5840
720	Sta. 1345+00.00	El. 6552.77	5830
730	Sta. 1345+00.00	El. 6552.77	5820
740	Sta. 1345+00.00	El. 6552.77	5810
750	Sta. 1345+00.00	El. 6552.77	5800
760	Sta. 1345+00.00	El. 6552.77	5790
770	Sta. 1345+00.00	El. 6552.77	5780
780	Sta. 1345+00.00	El. 6552.77	5770
790	Sta. 1345+00.00	El. 6552.77	5760
800	Sta. 1345+00.00	El. 6552.77	5750
810	Sta. 1345+00.00	El. 6552.77	5740
820	Sta. 1345+00.00	El. 6552.77	5730
830	Sta. 1345+00.00	El. 6552.77	5720
840	Sta. 1345+00.00	El. 6552.77	5710
850	Sta. 1345+00.00	El. 6552.77	5700
860	Sta. 1345+00.00	El. 6552.77	5690
870	Sta. 1345+00.00	El. 6552.77	5680
880	Sta. 1345+00.00	El. 6552.77	5670
890	Sta. 1345+00.00	El. 6552.77	5660
900	Sta. 1345+00.00	El. 6552.77	5650
910	Sta. 1345+00.00	El. 6552.77	5640
920	Sta. 1345+00.00	El. 6552.77	5630
930	Sta. 1345+00.00	El. 6552.77	5620
940	Sta. 1345+00.00	El. 6552.77	5610
950	Sta. 1345+00.00	El. 6552.77	5600
960	Sta. 1345+00.00	El. 6552.77	5590
970	Sta. 1345+00.00	El. 6552.77	5580
980	Sta. 1345+00.00	El. 6552.77	5570
990	Sta. 1345+00.00	El. 6552.77	5560
1000	Sta. 1345+00.00	El. 6552.77	5550

AS CONSTRUCTED  
 NO REVISIONS  -17-87 REVISED  VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	72	



**CURVE DATA**

Δ	Ts	Es	Δs	Ls	Lt	St	Δc	Dc	Tc	Lc	Rc	e	M.D.S.	S.S.D.
169°02'18"	3999.05'		15°30'00"	200.00'	133.85'	67.13'	138°02'18"	15°30'	963.93'	890.57'	369.65'	.074	30	>600'
40°27'46"	442.99'	58.07'	9°45'00"	280.00'	186.95'	93.59'	20°51'46"	7°	1506.9'	298.04'	818.51'	.079	50	>600'
			21°22'30"	225.00'	151.11'	76.01'	41°44'15"	19°	869.31'	745.99'	301.56'	.078	30	>600'

GCI TEST HOLE #5  
 0-1 SILTY SAND TOPSOIL  
 1-25 BROWN SILTY SAND (A-B)  
 25+ CLAYSTONE BEDROCK  
 % 200- 7.2%

1360+00	1360+00.50	1360+01.00	1360+01.50	1360+02.00	1360+02.50	1360+03.00	1360+03.50	1360+04.00	1360+04.50	1360+05.00	1360+05.50	1360+06.00	1360+06.50	1360+07.00	1360+07.50	1360+08.00	1360+08.50	1360+09.00	1360+09.50	1360+10.00	1360+10.50	1360+11.00	1360+11.50	1360+12.00	1360+12.50	1360+13.00	1360+13.50	1360+14.00	1360+14.50	1360+15.00	1360+15.50	1360+16.00	1360+16.50	1360+17.00	1360+17.50	1360+18.00	1360+18.50	1360+19.00	1360+19.50	1360+20.00	1360+20.50	1360+21.00	1360+21.50	1360+22.00	1360+22.50	1360+23.00	1360+23.50	1360+24.00	1360+24.50	1360+25.00	1360+25.50	1360+26.00	1360+26.50	1360+27.00	1360+27.50	1360+28.00	1360+28.50	1360+29.00	1360+29.50	1360+30.00	1360+30.50	1360+31.00	1360+31.50	1360+32.00	1360+32.50	1360+33.00	1360+33.50	1360+34.00	1360+34.50	1360+35.00	1360+35.50	1360+36.00	1360+36.50	1360+37.00	1360+37.50	1360+38.00	1360+38.50	1360+39.00	1360+39.50	1360+40.00	1360+40.50	1360+41.00	1360+41.50	1360+42.00	1360+42.50	1360+43.00	1360+43.50	1360+44.00	1360+44.50	1360+45.00	1360+45.50	1360+46.00	1360+46.50	1360+47.00	1360+47.50	1360+48.00	1360+48.50	1360+49.00	1360+49.50	1360+50.00	1360+50.50	1360+51.00	1360+51.50	1360+52.00	1360+52.50	1360+53.00	1360+53.50	1360+54.00	1360+54.50	1360+55.00	1360+55.50	1360+56.00	1360+56.50	1360+57.00	1360+57.50	1360+58.00	1360+58.50	1360+59.00	1360+59.50	1360+60.00	1360+60.50	1360+61.00	1360+61.50	1360+62.00	1360+62.50	1360+63.00	1360+63.50	1360+64.00	1360+64.50	1360+65.00	1360+65.50	1360+66.00	1360+66.50	1360+67.00	1360+67.50	1360+68.00	1360+68.50	1360+69.00	1360+69.50	1360+70.00	1360+70.50	1360+71.00	1360+71.50	1360+72.00	1360+72.50	1360+73.00	1360+73.50	1360+74.00	1360+74.50	1360+75.00	1360+75.50	1360+76.00	1360+76.50	1360+77.00	1360+77.50	1360+78.00	1360+78.50	1360+79.00	1360+79.50	1360+80.00	1360+80.50	1360+81.00	1360+81.50	1360+82.00	1360+82.50	1360+83.00	1360+83.50	1360+84.00	1360+84.50	1360+85.00	1360+85.50	1360+86.00	1360+86.50	1360+87.00	1360+87.50	1360+88.00	1360+88.50	1360+89.00	1360+89.50	1360+90.00	1360+90.50	1360+91.00	1360+91.50	1360+92.00	1360+92.50	1360+93.00	1360+93.50	1360+94.00	1360+94.50	1360+95.00	1360+95.50	1360+96.00	1360+96.50	1360+97.00	1360+97.50	1360+98.00	1360+98.50	1360+99.00	1360+99.50	1360+100.00
---------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	-------------

I 25/BRIARGATE PARKWAY INTERCHANGE  
 PLAN PROFILE  
 DATE: \_\_\_\_\_ PROJECT NO.: \_\_\_\_\_ DESIGNED BY: \_\_\_\_\_ SHEET NO.: \_\_\_\_\_ DRAWING NO.: \_\_\_\_\_  
 URS CHECKED BY: \_\_\_\_\_ OF \_\_\_\_\_ SHEETS



CURVE DATA

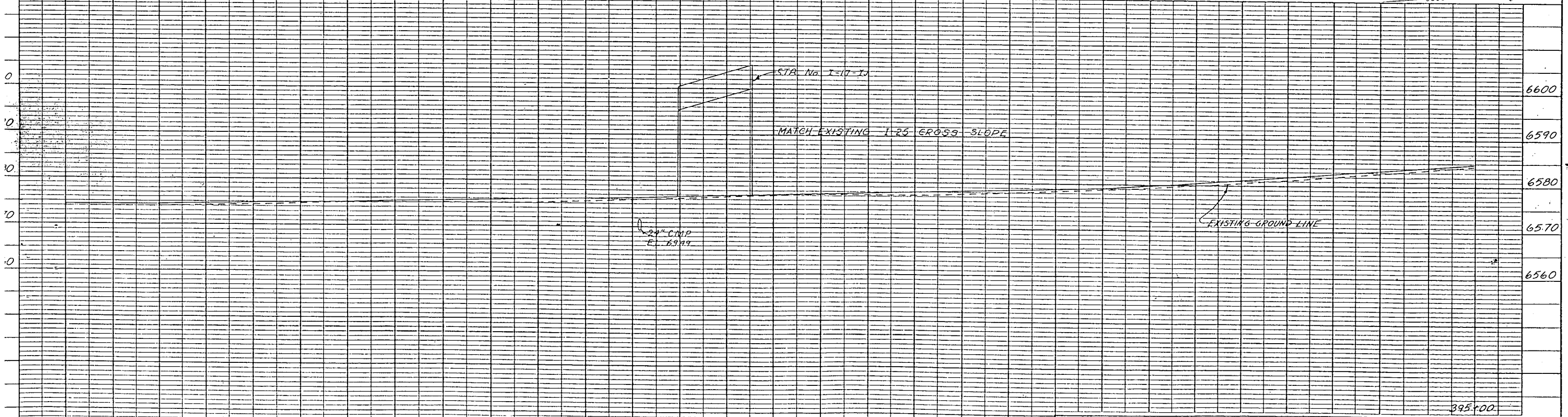
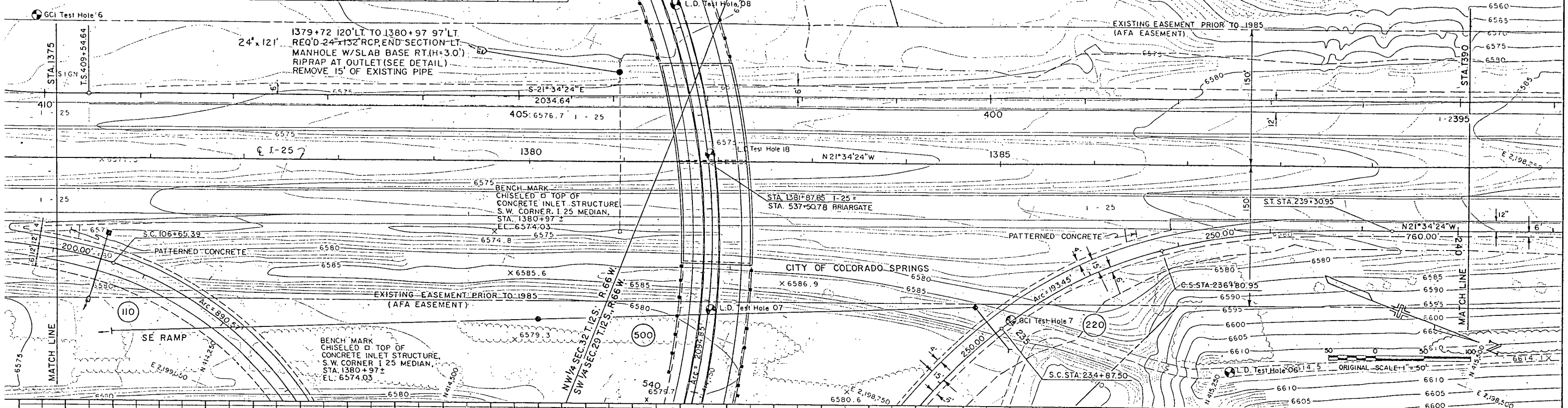
CRVE NO.	Δ	Ts	Es	Es	Ls	Lt	St	Dc	Dc	Tc	Lc	Rc	e	M.D.S.	S.S.D.
10	169°02'18"	3999.05'	15°30'00"	20000'	13385'	6713'	138°02'18"	15°30'	963.93'	890.57'	369.65'	.074	30	>600'	
220	53°12'52"	366.6'	62.64'	15°00'00"	250.00'	167.27'	83.88'	23°12'52"	12"	98.07'	193.45'	477.46'	.080	45	351'
500				8°04'19"	225.00'	150.15'	75.14'	150°18'45"	7°10'31"	3012.92'	2094.85'	798.51'	.067	40	>600'

AS CONSTRUCTED

NO REVISIONS  REVISED  8-17-87 VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	73	

ACCESS CONTROL BY AIR ACADEMY AND COLO. DEPT. OF HIGHWAYS

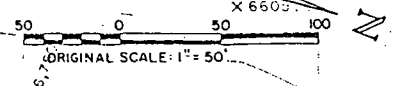
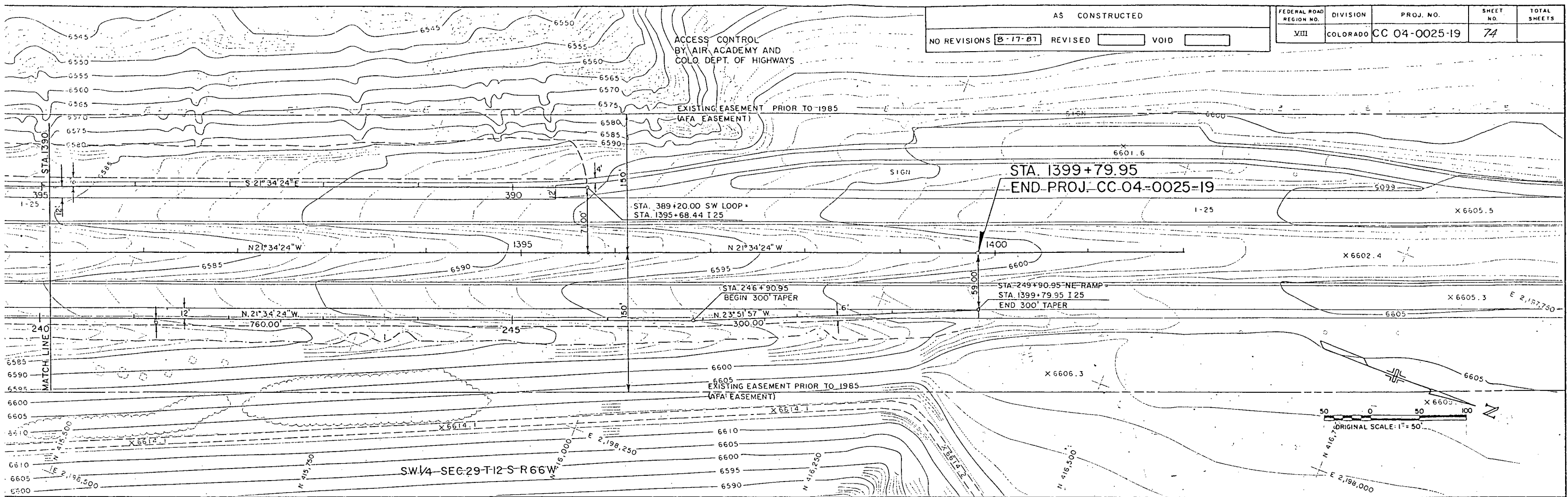


I 25/BRIARGATE PARKWAY INTERCHANGE  
PLAN & PROFILE

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF	SHEETS

AS CONSTRUCTED  
 NO REVISIONS  8-17-87 REVISED  VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	74	



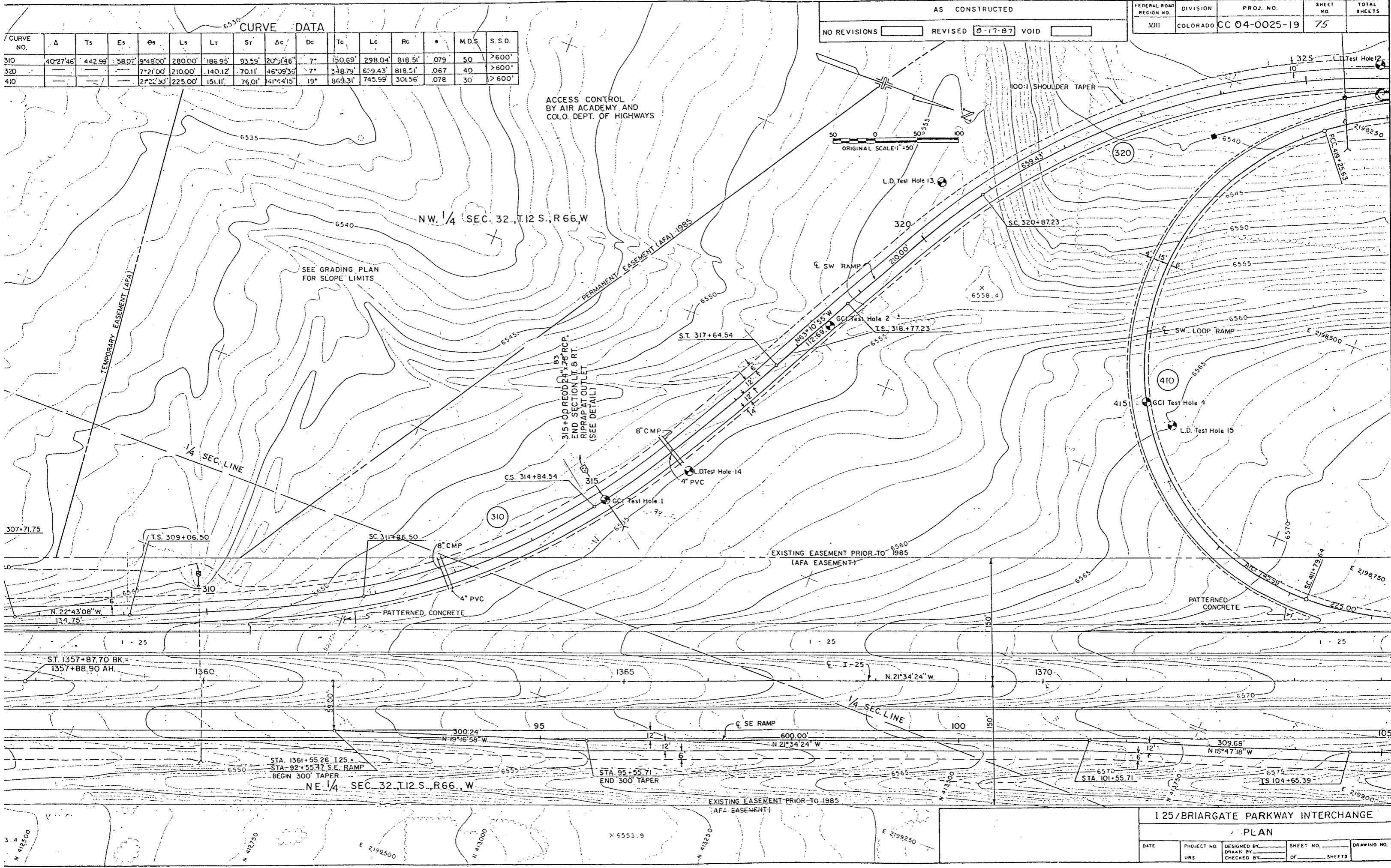
I 25/BRIARGATE PARKWAY INTERCHANGE PLAN & PROFILE				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS		74	
		CHECKED BY	OF SHEETS	

CURVE DATA															
CURVE NO.	Δ	Ts	Es	es	Ls	Lt	St	Δc	Dc	Tc	Lc	Rc	e	M.D.S.	S.S.D.
310	40°27'46"	442.99	58.07	9°49'00"	280.00'	186.95'	93.59'	20°14'46"	7°	150.69'	298.04'	818.51'	.079	50	>600'
320	—	—	—	7°21'00"	210.00'	140.12'	70.11'	46°39'35"	7°	348.79'	659.43'	818.51'	.067	40	>600'
410	—	—	—	2°22'30"	225.00'	151.11'	76.01'	41°44'15"	19°	869.31'	745.99'	301.56'	.078	30'	>600'

AS CONSTRUCTED

NO REVISIONS  REVISED  8-17-87 VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 04-0025-19	75	



**125/BRIARGATE PARKWAY INTERCHANGE**

**PLAN**

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	

PREPARED BY - URS COMPANY - DENVER

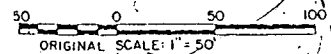
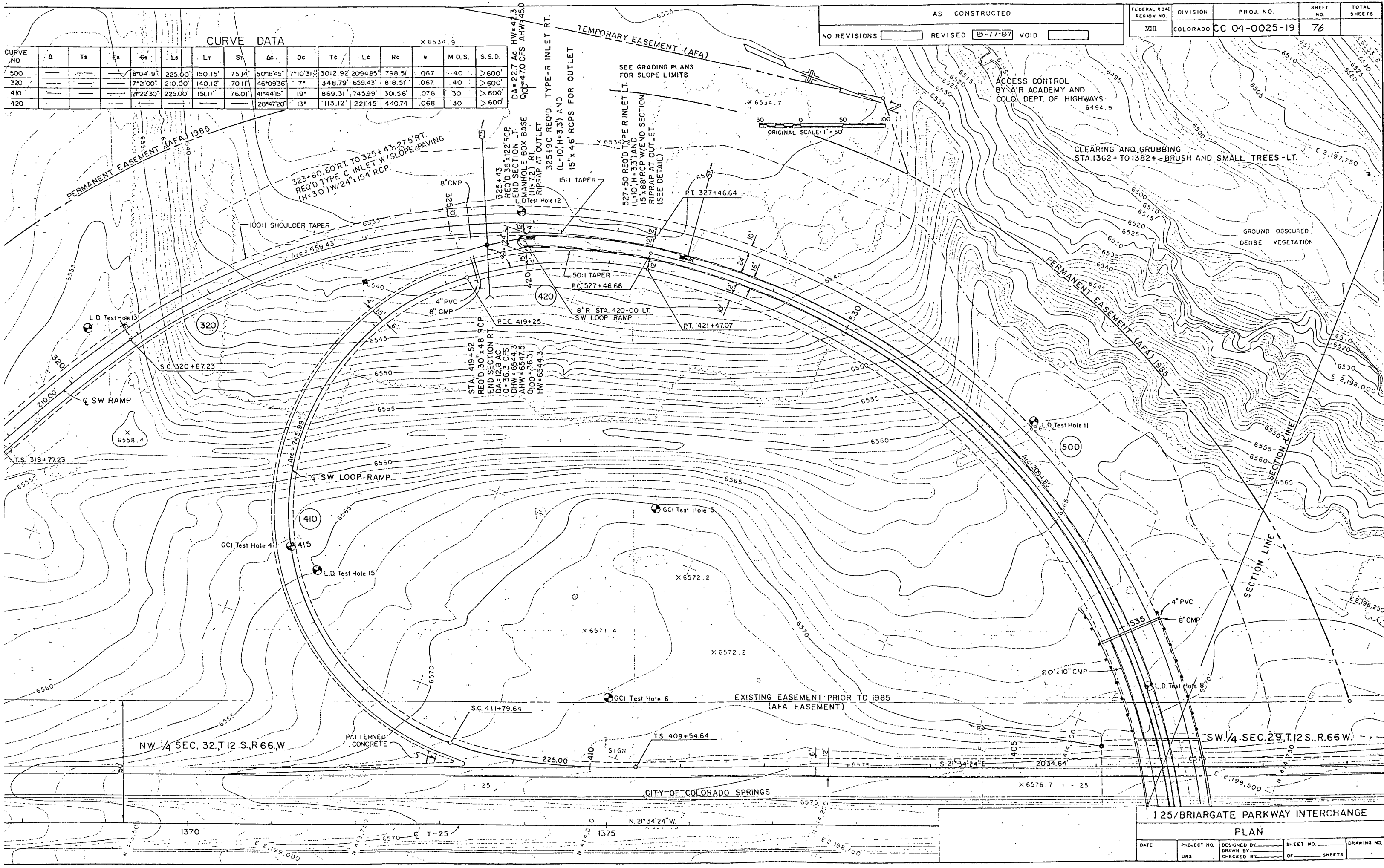
AS CONSTRUCTED

NO REVISIONS  REVISED  8-17-87 VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	76	

CURVE DATA

CURVE NO.	Δ	Ts	Es	Es	Ls	Lt	St	Δc	Dc	Tc	Lc	Rc	e	M.D.S.	S.S.D.
500				8°04'19"	225.00'	150.15'	75.14'	50°18'45"	7°10'31"	3012.92'	2094.85'	798.51'	0.67	40	>600'
320				7°21'00"	210.00'	140.12'	70.11'	46°09'36"	7°	348.79'	659.43'	818.51'	0.67	40	>600'
410				2°22'30"	225.00'	151.11'	76.01'	41°44'15"	19°	869.31'	745.99'	301.56'	0.78	30	>600'
420								28°47'20"	13°	113.12'	221.45'	440.74'	0.68	30	>600'



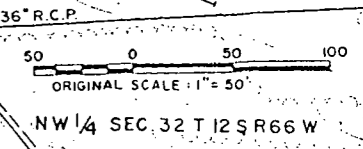
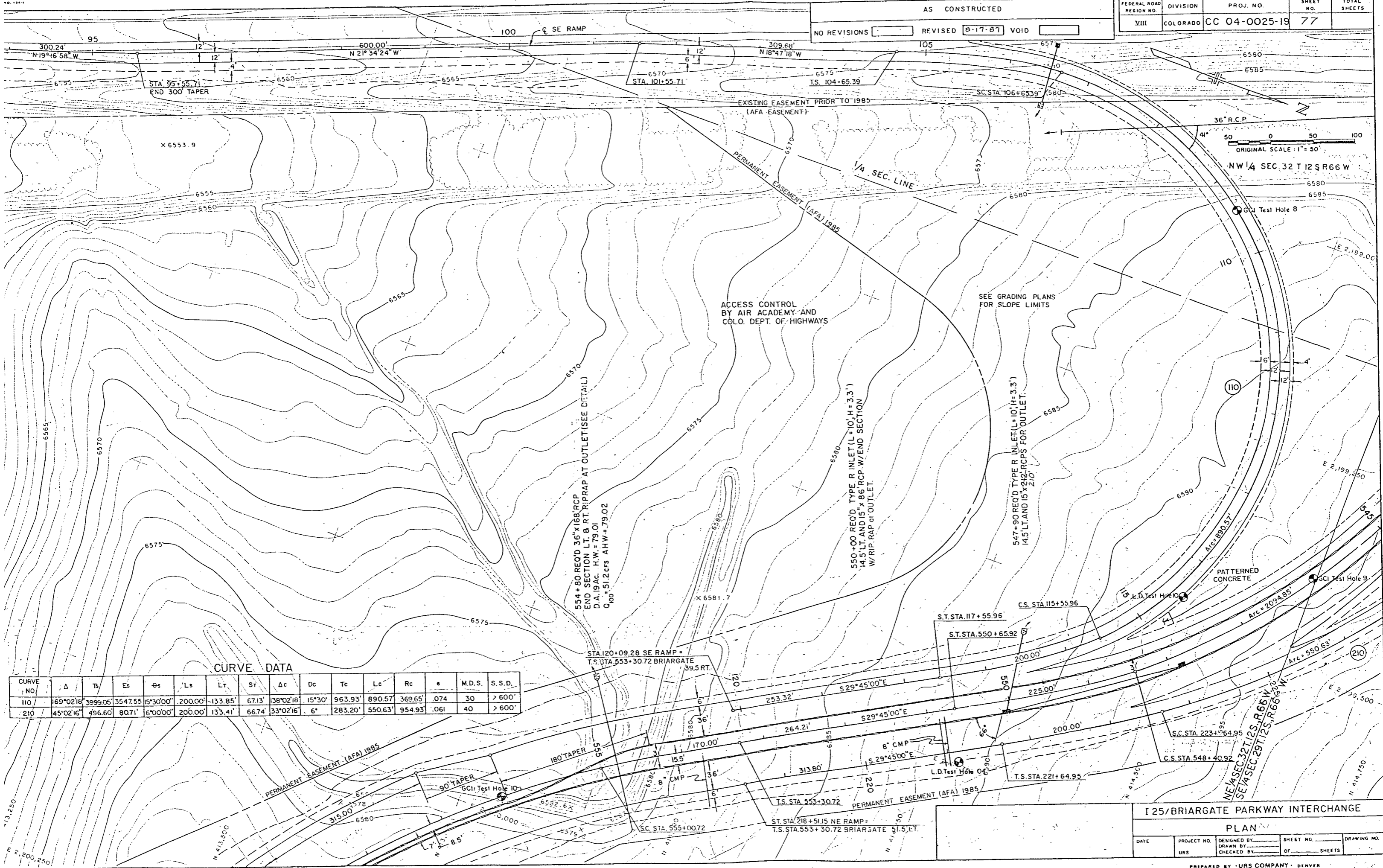
I 25/BRIARGATE PARKWAY INTERCHANGE

PLAN

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	

AS CONSTRUCTED  
 NO REVISIONS  REVISED 8-17-87 VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	77	

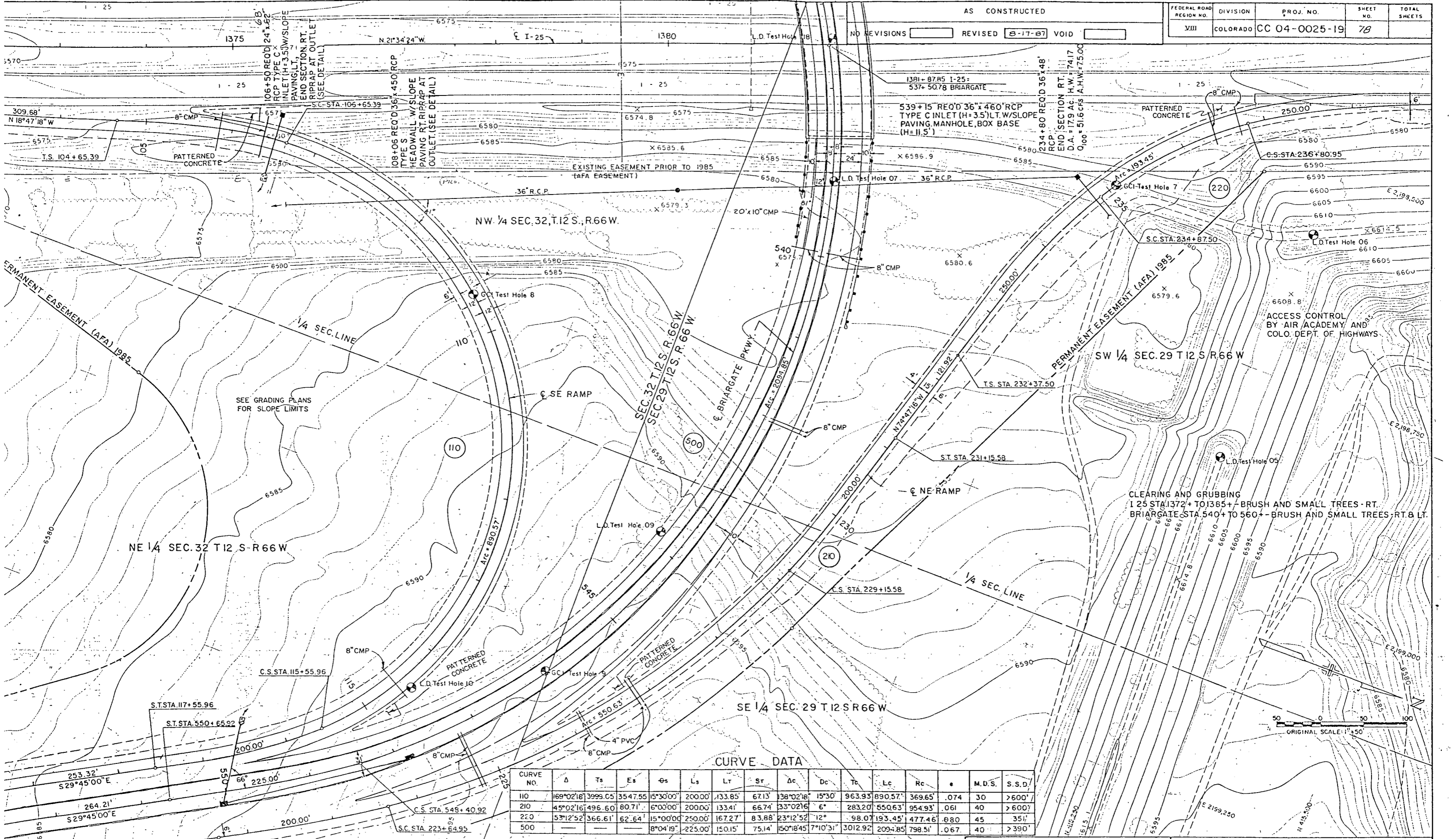


CURVE DATA

CURVE NO.	Δ	Ts	Es	θs	Ls	Lt	St	Δc	Dc	Tc	Lc	Rc	e	M.D.S.	S.S.D.
110	169°02'18"	3999.05'	3547.55'	15°30'00"	200.00'	-133.85'	67.13'	38°02'18"	15°30'	963.93'	890.57'	369.65'	.074	30	> 600'
210	45°02'16"	496.60'	80.71'	6°00'00"	200.00'	133.41'	66.74'	33°02'16"	6°	283.20'	550.63'	954.93'	.061	40	> 600'

I25/BRIARGATE PARKWAY INTERCHANGE

DATE		PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
		URS	CHECKED BY	OF SHEETS	



CLEARING AND GRUBBING  
 I 25 STA 1372+ TO 1365+ - BRUSH AND SMALL TREES - RT.  
 BRIARGATE STA 540+ TO 560+ - BRUSH AND SMALL TREES - RT. & LT.

CURVE DATA

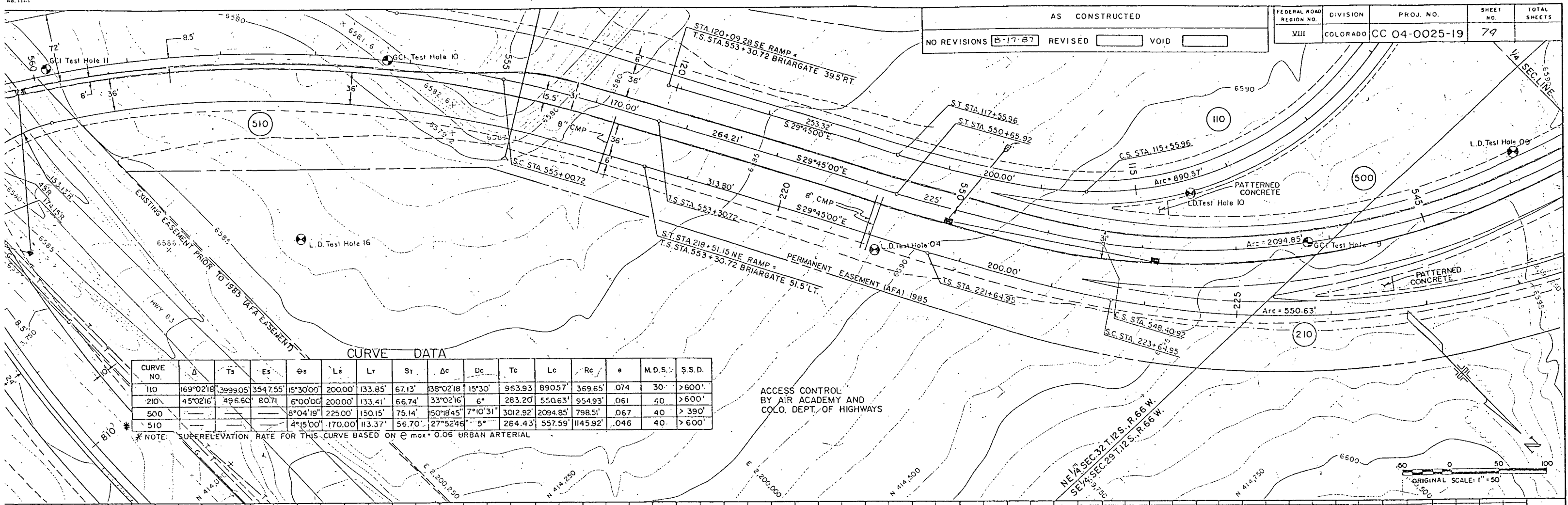
CURVE NO.	Δ	Ts	Es	ϕs	Ls	Lt	Sr	Δc	Dc	Tc	Lc	Rc	e	M.D.S.	S.S.D.
110	169°02'18"	3999.05'	3547.55'	15°30'00"	200.00'	133.85'	67.13'	138°02'18"	15°30'	963.93'	890.57'	369.65'	.074	30	>600'
210	45°02'16"	496.60'	80.71'	6°00'00"	200.00'	133.41'	66.74'	33°02'16"	6°	283.20'	550.63'	954.93'	.061	40	>600'
220	53°12'52"	366.61'	62.64'	15°00'00"	250.00'	167.27'	83.88'	23°12'52"	12°	98.07'	193.45'	477.46'	.080	45	351'
500	—	—	—	8°04'19"	225.00'	150.15'	75.14'	150°18'45"	7°10'31"	3012.92'	209.85'	798.51'	.067	40	>390'

I 25/BRIARGATE PARKWAY INTERCHANGE  
 PLAN

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	

AS CONSTRUCTED  
 NO REVISIONS  6-17-87 REVISED  VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 04-0025-19	79	

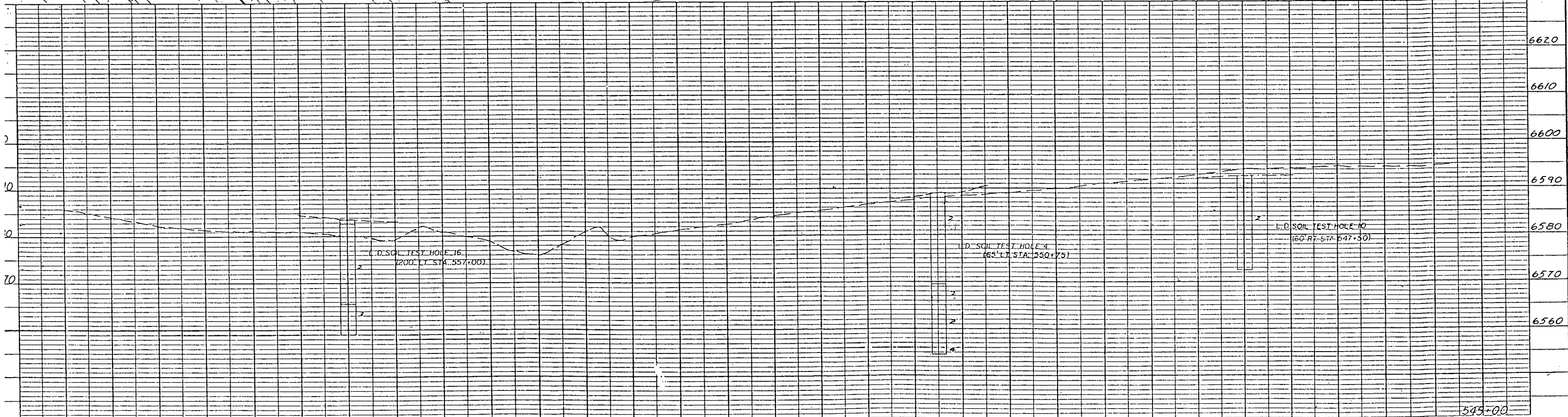
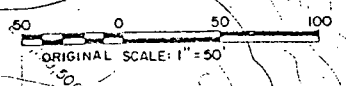


CURVE DATA

CURVE NO.	Δ	Ts	Es	φs	Ls	Lt	St	Δc	Dc	Tc	Lc	Rc	e	M.D.S.	S.S.D.
110	169°02'18"	3993.05'	3547.55'	15°30'00"	200.00'	133.85'	67.13'	38°02'18"	15°30'	953.93'	890.57'	359.65'	.074	30'	>600'
210	45°02'16"	496.60'	80.71'	6°00'00"	200.00'	133.41'	66.74'	33°02'16"	6°	283.20'	550.63'	954.93'	.061	40'	>600'
500	8°04'19"	225.00'	150.15'	8°04'19"	225.00'	150.15'	75.14'	150°18'45"	7°10'31"	3012.92'	2094.85'	798.51'	.067	40'	>390'
510	4°15'00"	170.00'	113.37'	4°15'00"	170.00'	113.37'	56.70'	27°52'46"	5°	264.43'	557.59'	1145.92'	.046	40'	>600'

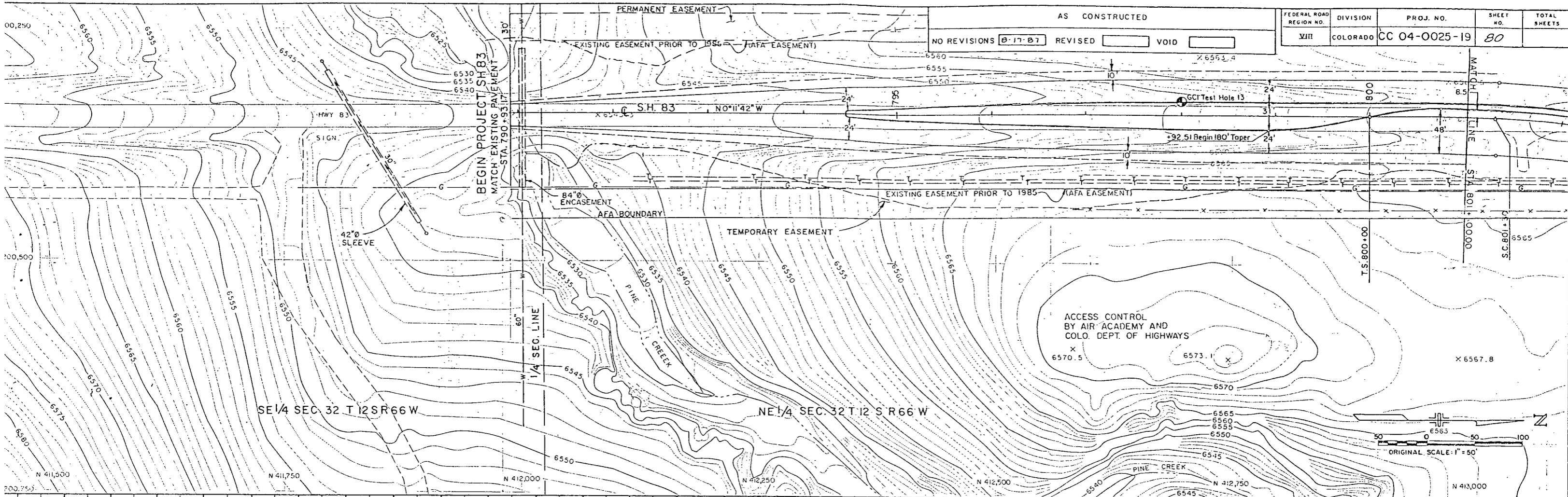
\* NOTE: SUPERELEVATION RATE FOR THIS CURVE BASED ON  $e_{max} = 0.06$  URBAN ARTERIAL

ACCESS CONTROL BY AIR ACADEMY AND COLO. DEPT. OF HIGHWAYS

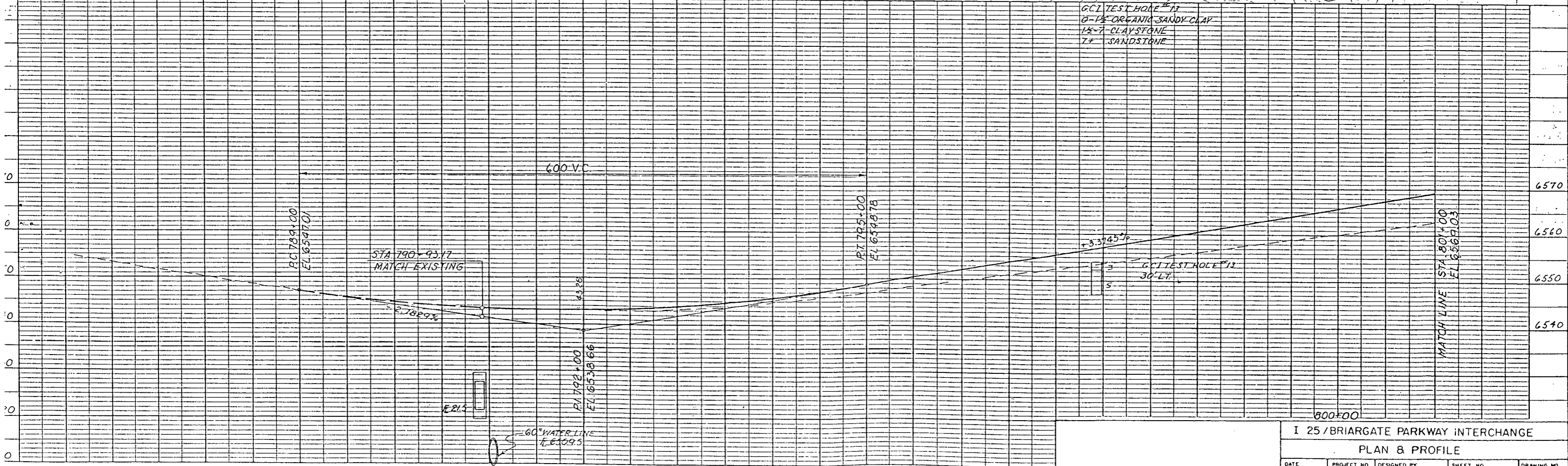
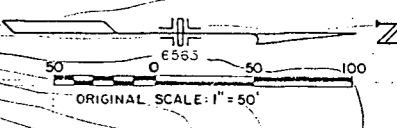


125/BRIARGATE PARKWAY INTERCHANGE  
 PLAN & PROFILE

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	



AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	B-17-B7	REVISED	VOID	VIII	COLORADO	CC 04-0025-19
						80



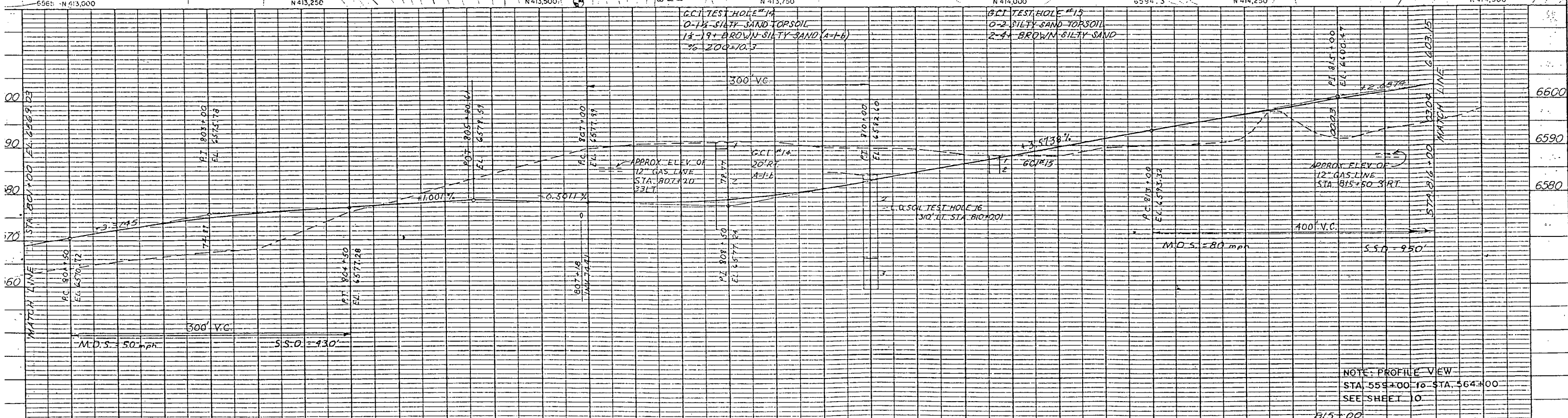
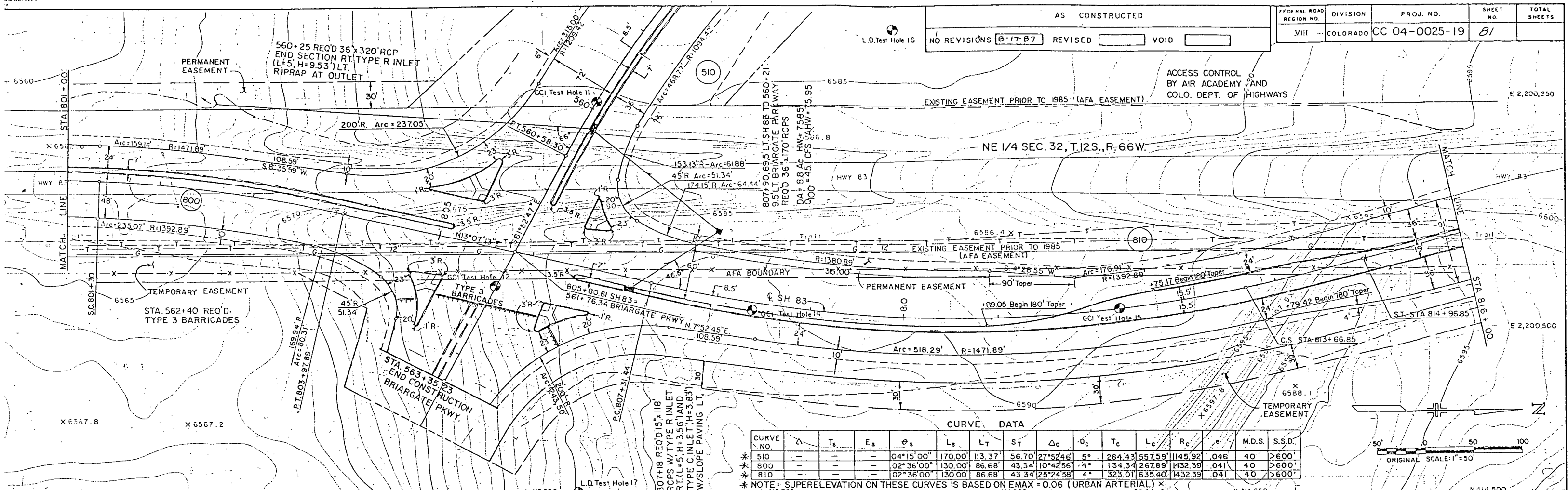
I 25 / BRIARGATE PARKWAY INTERCHANGE					
PLAN & PROFILE					
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.	
	URS	CHECKED BY	OF	SHEETS	



AS CONSTRUCTED

NO REVISIONS  17-87 REVISED  VOID

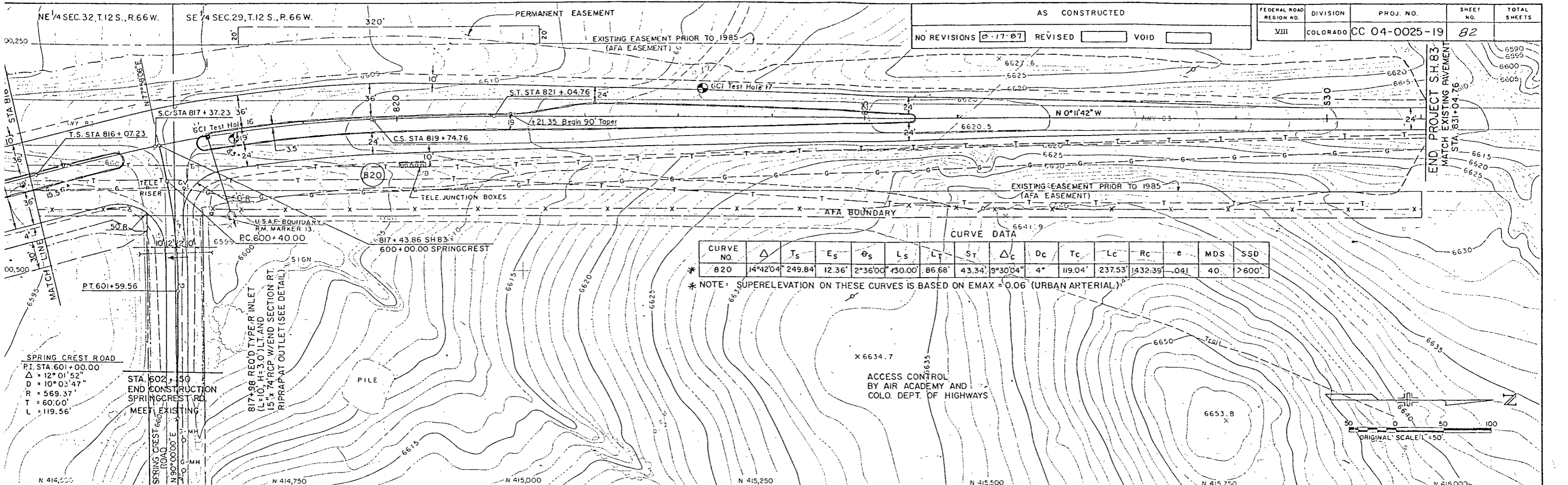
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	81	



125/BRIARGATE PARKWAY INTERCHANGE  
PLAN & PROFILE

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
URS		CHECKED BY	OF SHEETS	

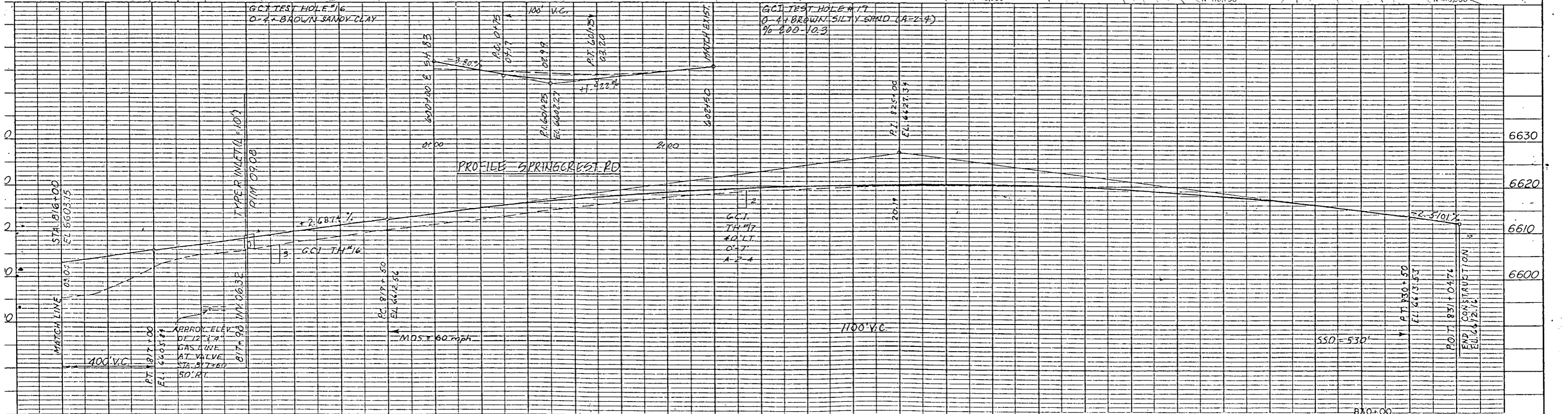
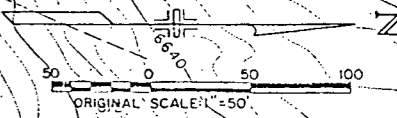
PREPARED BY URS COMPANY, DENVER



AS CONSTRUCTED		FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	REVISED	VIII	COLORADO	CC 04-0025-19	82	

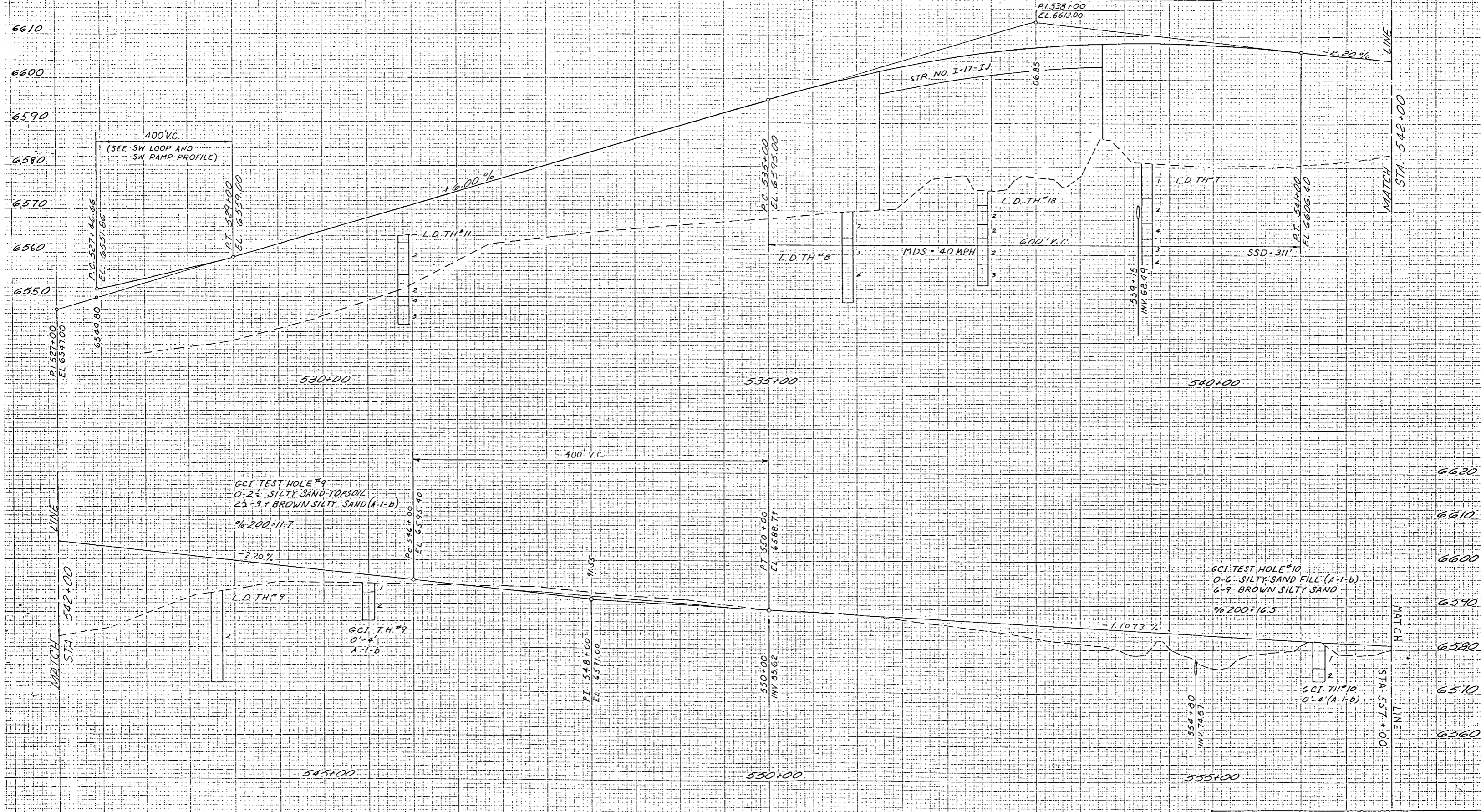
CURVE NO.	$\Delta$	$T_s$	$E_s$	$\theta_s$	$L_s$	$L_t$	$S_T$	$\Delta_c$	$D_c$	$T_c$	$L_c$	$R_c$	$e$	MDS	SSD
* 820	14°42'04"	249.84	12.36'	2°36'00"	430.00'	86.68'	43.34'	9°30'04"	4°	119.04'	237.53'	1432.39'	.041	40'	>600'

\* NOTE: SUPERELEVATION ON THESE CURVES IS BASED ON  $E_{MAX} = 0.06$  (URBAN ARTERIAL)



125/BRIARGATE PARKWAY INTERCHANGE  
PLAN & PROFILE

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	PP-

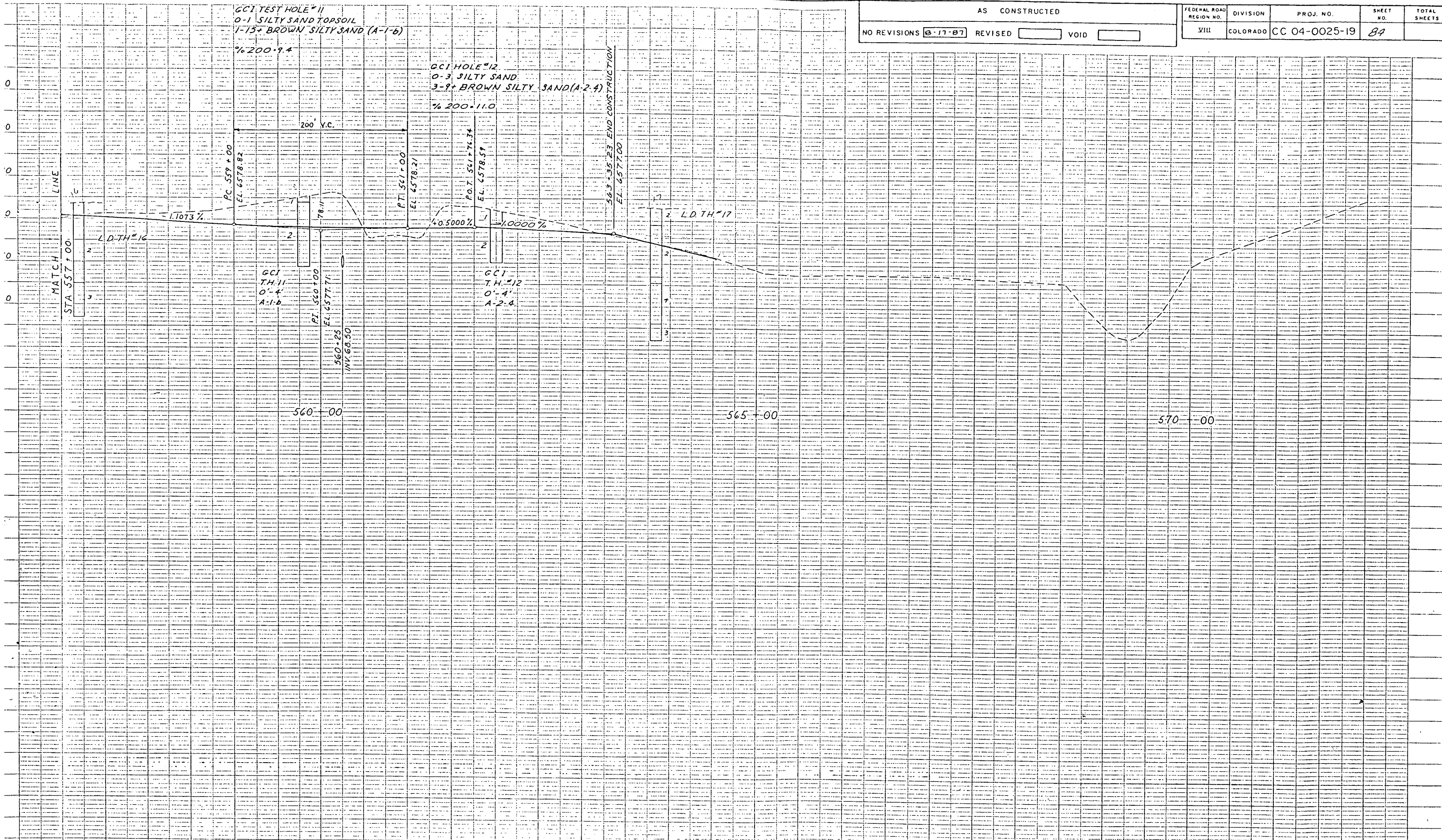


BRIARGATE PARKWAY

1 25/BRIARGATE PARKWAY INTERCHANGE				
PROFILE				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	

AS CONSTRUCTED  
 NO REVISIONS  B-17-B7 REVISED  VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	84	



GCI TEST HOLE #11  
 0-1 SILTY SAND TOPSOIL  
 1-15+ BROWN SILTY SAND (A-1-b)  
 % 200-9.4

GCI HOLE #12  
 0-3 SILTY SAND  
 3-9+ BROWN SILTY SAND (A-2.4)  
 % 200-11.0

GCI T.H. #11  
 0'-4"  
 A-1-b

GCI T.H. #12  
 0'-4"  
 A-2.4

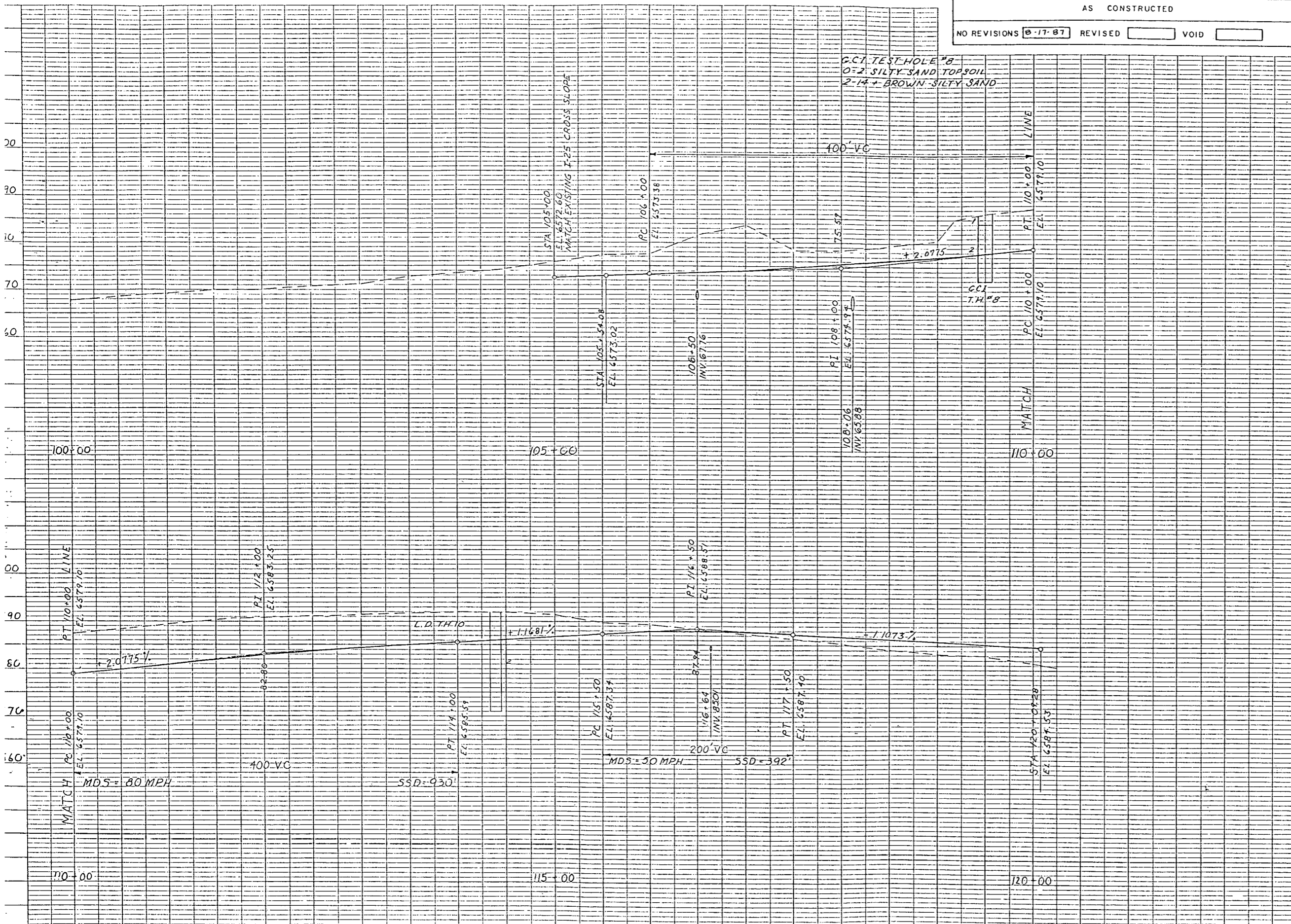
BRIARGATE PARKWAY

I 25/BRIARGATE PARKWAY INTERCHANGE  
 PROFILE

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF	SHEETS

AS CONSTRUCTED  
 NO REVISIONS  17-87 REVISED  VOID

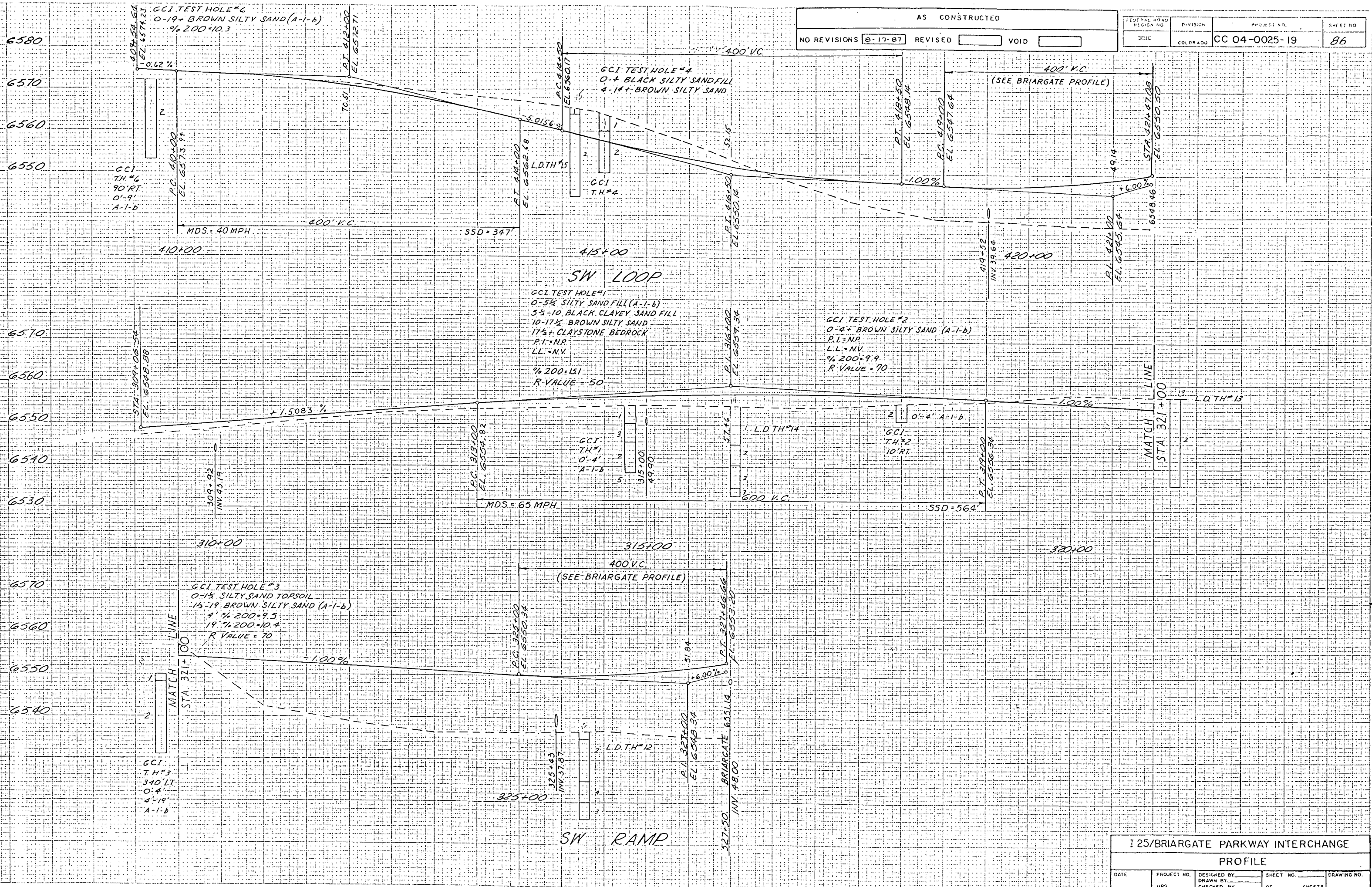
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	85	



I25/BRIARGATE PARKWAY INTERCHANGE				
PROFILE				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	

AS CONSTRUCTED  
NO REVISIONS  8-17-87 REVISED  VOID

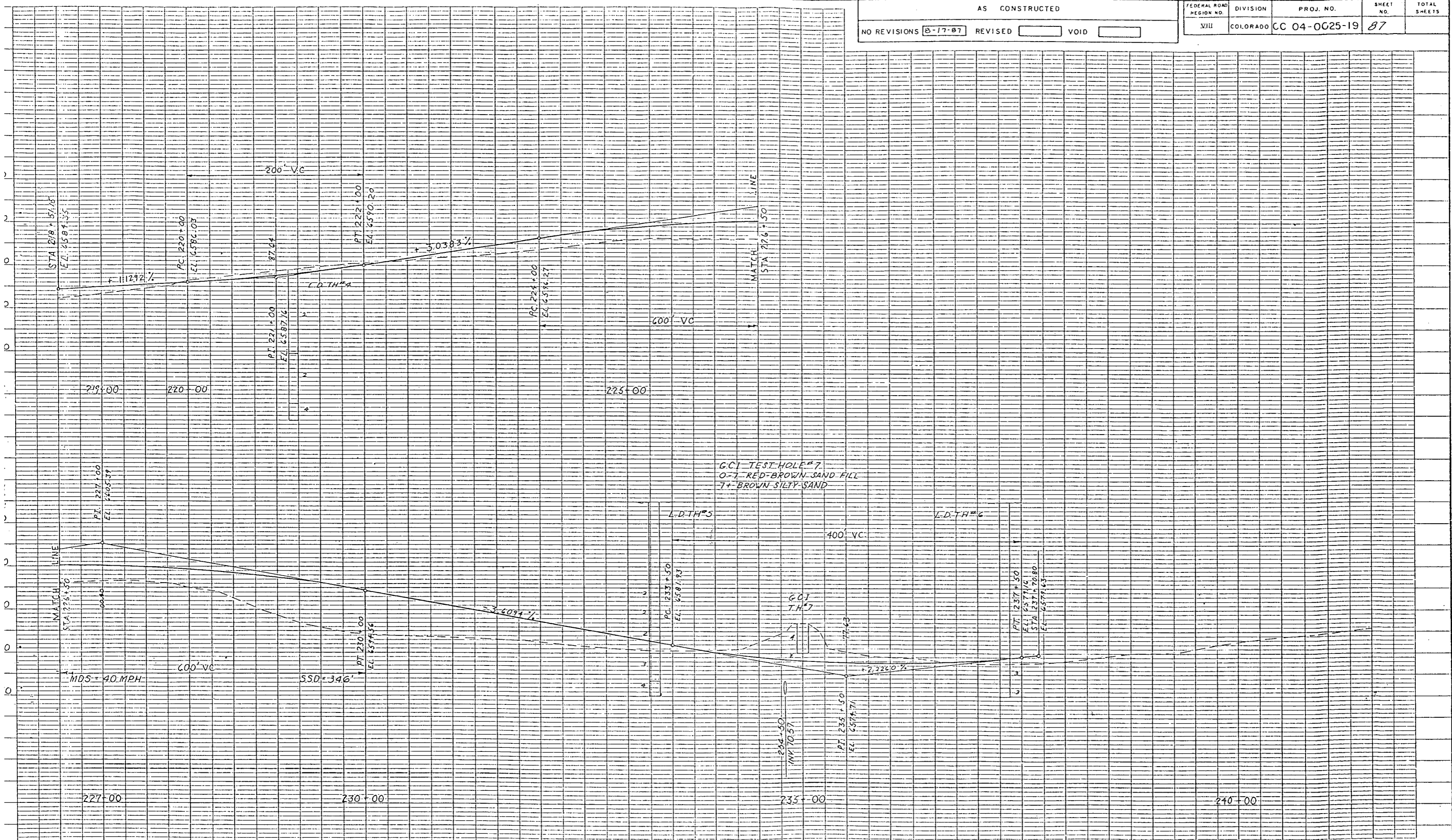
FEDERAL ROAD DISTRICT NO.	DIVISION	PROJECT NO.	SHEET NO.
1111	COLORADO	CC 04-0025-19	86



I 25/BRIARGATE PARKWAY INTERCHANGE				
PROFILE				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	

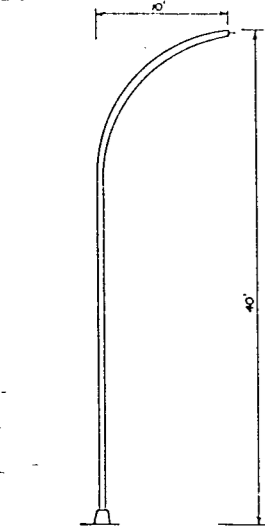
AS CONSTRUCTED  
 NO REVISIONS  8-17-87 REVISED  VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	87	



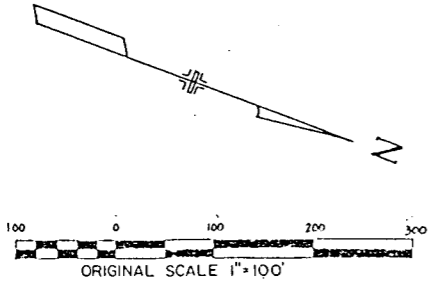
NE RAMP

I 25/BRIARGATE PARKWAY INTERCHANGE				
PROFILE				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	

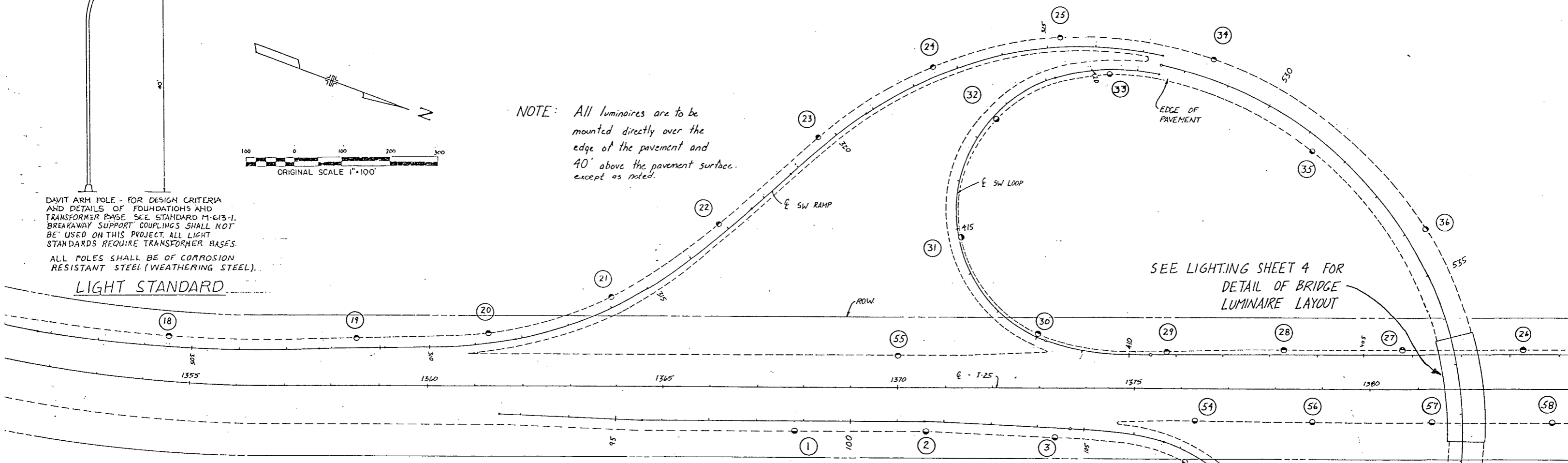


DAVIT ARM POLE - FOR DESIGN CRITERIA AND DETAILS OF FOUNDATIONS AND TRANSFORMER BASE SEE STANDARD M-613-1. BREAKAWAY SUPPORT COUPLINGS SHALL NOT BE USED ON THIS PROJECT. ALL LIGHT STANDARDS REQUIRE TRANSFORMER BASES. ALL POLES SHALL BE OF CORROSION RESISTANT STEEL (WEATHERING STEEL).

LIGHT STANDARD



NOTE: All luminaires are to be mounted directly over the edge of the pavement and 40' above the pavement surface, except as noted.



SEE LIGHTING SHEET 4 FOR DETAIL OF BRIDGE LUMINAIRE LAYOUT

LUMINAIRE LAYOUT SCHEDULE

1	98 + 80.00	22	316 + 90.00	38	542 + 15.00
2	101 + 60.00	23	319 + 70.00	39	543 + 65.00
3	104 + 40.00	24	322 + 50.00	40	545 + 15.00
4	107 + 20.00	25	325 + 30.00	41	552 + 55.00
5	110 + 00.00	26	401 + 70.00	42	554 + 05.00
6	112 + 80.00	27	404 + 20.00	43	555 + 55.00
7	114 + 80.00	28	406 + 70.00	44	557 + 05.00
8	117 + 80.00	29	409 + 20.00	46	559 + 15.00
9	222 + 20.00	30	412 + 00.00	54	1376 + 30.00
10	225 + 20.00	31	414 + 80.00	55	1370 + 00.00
11	228 + 00.00	32	417 + 60.00	56	1378 + 80.00
12	230 + 80.00	33	420 + 40.00	57	1381 + 25.00
18	304 + 50.00	34	528 + 50.00	58	1383 + 70.00
19	308 + 50.00	35	531 + 30.00		
20	311 + 30.00	36	534 + 10.00		
21	314 + 10.00	37	540 + 65.00		

LUMINAIRE SCHEDULE

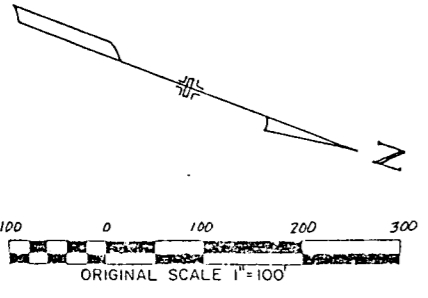
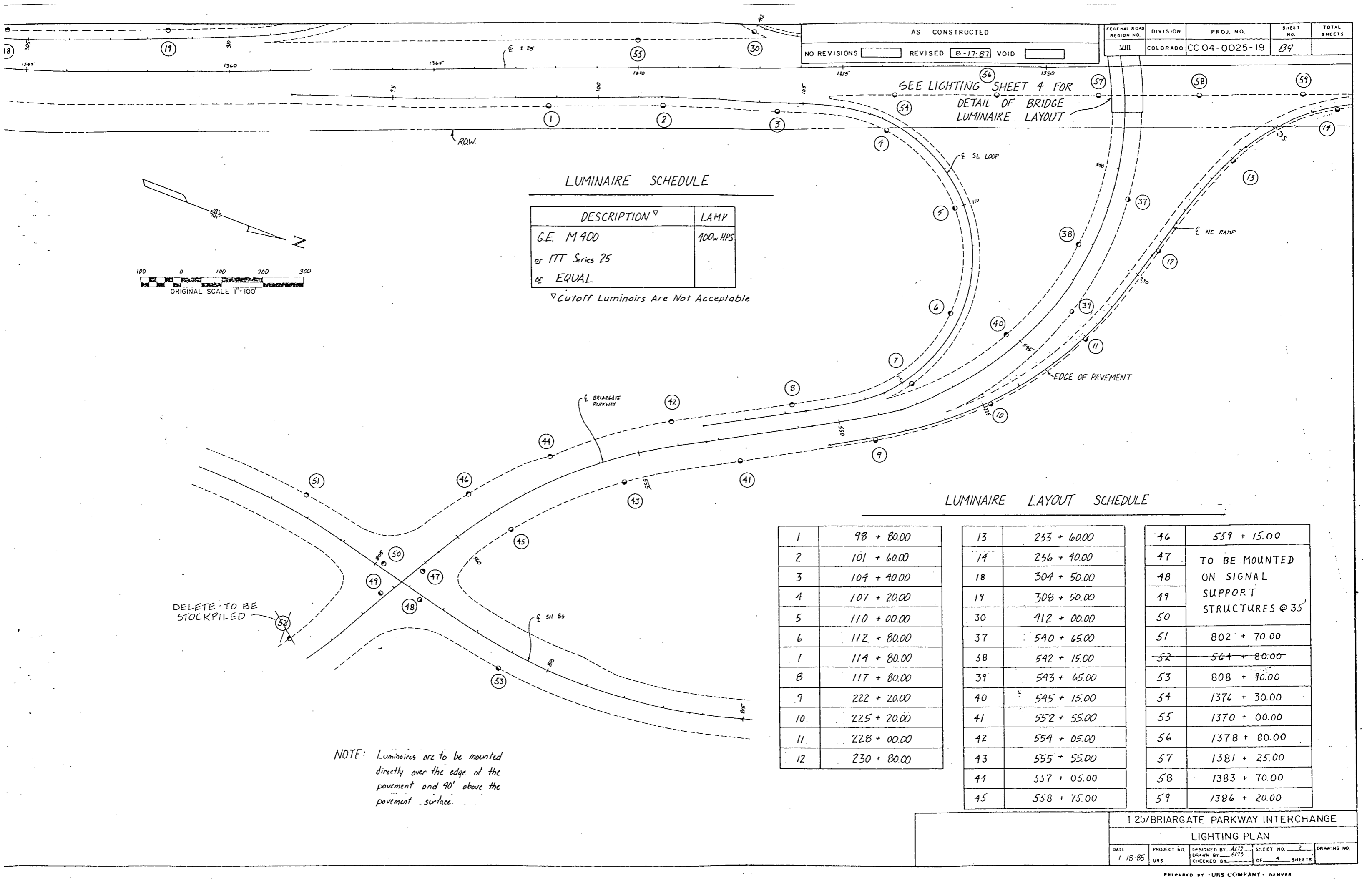
DESCRIPTION	LAMP
G.E. M400 or ITT Series 25 or EQUAL	400w HPS

I 25/BRIARGATE PARKWAY INTERCHANGE

LIGHTING PLAN

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
1-18-85	URS	AMS	1	
		CHECKED BY	OF 4 SHEETS	





LUMINAIRE SCHEDULE

DESCRIPTION	LAMP
G.E. M400	400w HPS
or ITT Series 25	
or EQUAL	

▽ Cutoff Luminaires Are Not Acceptable

SEE LIGHTING SHEET 4 FOR  
 DETAIL OF BRIDGE  
 LUMINAIRE LAYOUT

LUMINAIRE LAYOUT SCHEDULE

1	98 + 80.00	13	233 + 60.00	46	559 + 15.00
2	101 + 60.00	14	236 + 40.00	47	TO BE MOUNTED
3	104 + 40.00	18	304 + 50.00	48	ON SIGNAL
4	107 + 20.00	19	308 + 50.00	49	SUPPORT
5	110 + 00.00	30	412 + 00.00	50	STRUCTURES @ 35'
6	112 + 80.00	37	540 + 65.00	51	802 + 70.00
7	114 + 80.00	38	542 + 15.00	52	<del>564 + 80.00</del>
8	117 + 80.00	39	543 + 65.00	53	808 + 90.00
9	222 + 20.00	40	545 + 15.00	54	1376 + 30.00
10	225 + 20.00	41	552 + 55.00	55	1370 + 00.00
11	228 + 00.00	42	554 + 05.00	56	1378 + 80.00
12	230 + 80.00	43	555 + 55.00	57	1381 + 25.00
		44	557 + 05.00	58	1383 + 70.00
		45	558 + 75.00	59	1386 + 20.00

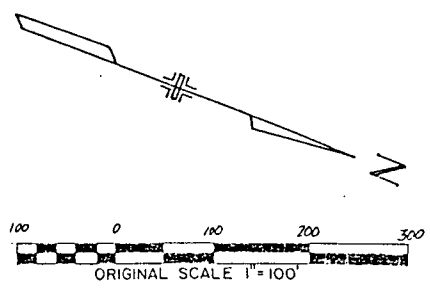
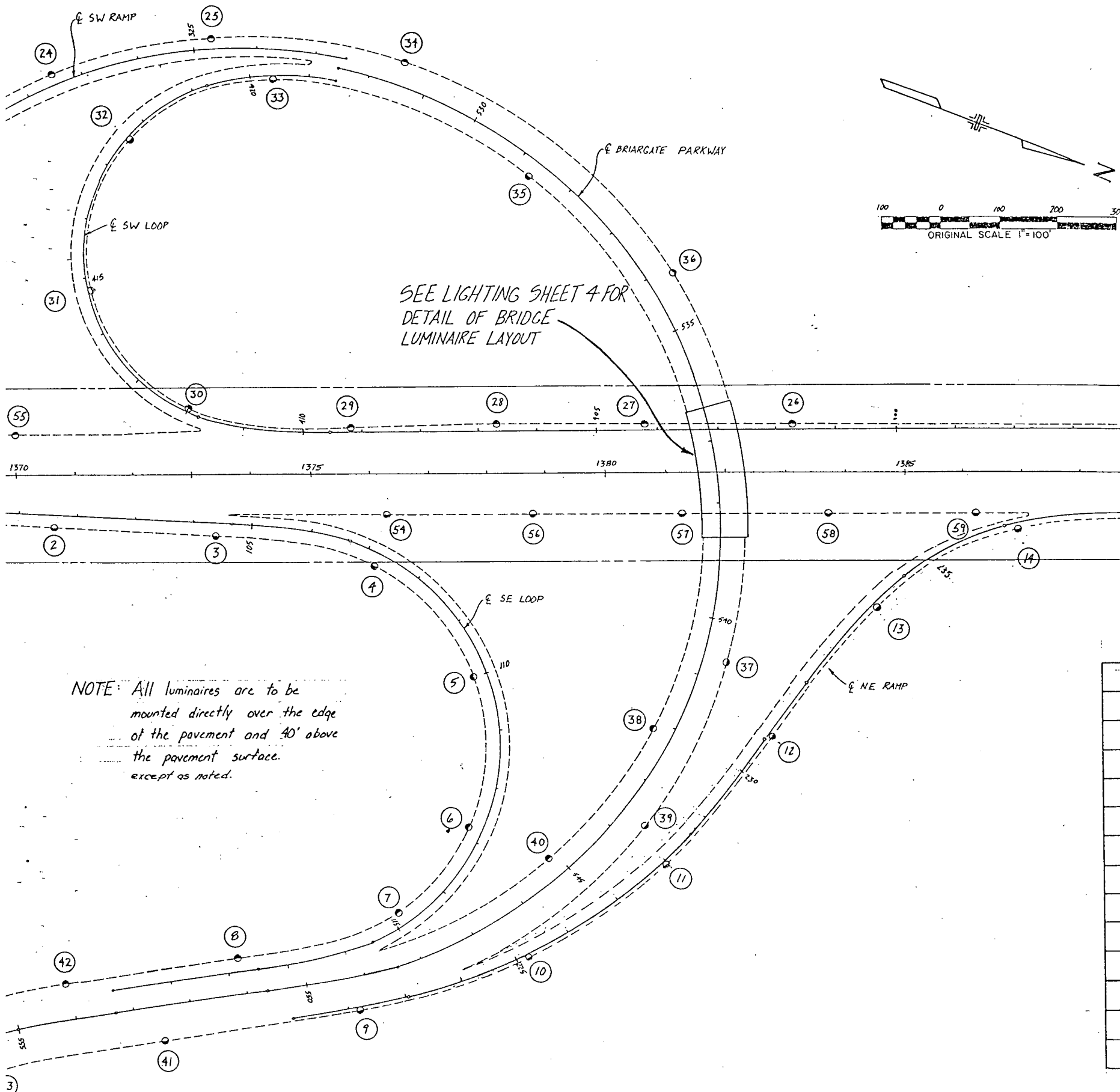
DELETE - TO BE STOCKPILED

NOTE: Luminaires are to be mounted directly over the edge of the pavement and 40' above the pavement surface.

I 25/BRIARGATE PARKWAY INTERCHANGE

LIGHTING PLAN

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
1-18-85	URS	ACTS	2	
		CHECKED BY	OF 4 SHEETS	



LUMINAIRE SCHEDULE

DESCRIPTION	LAMP
G.E. M400 or ITT Series 25 or EQUAL	400-w HPS

SEE LIGHTING SHEET 4 FOR  
 DETAIL OF BRIDGE  
 LUMINAIRE LAYOUT

NOTE: All luminaires are to be mounted directly over the edge of the pavement and 40' above the pavement surface, except as noted.

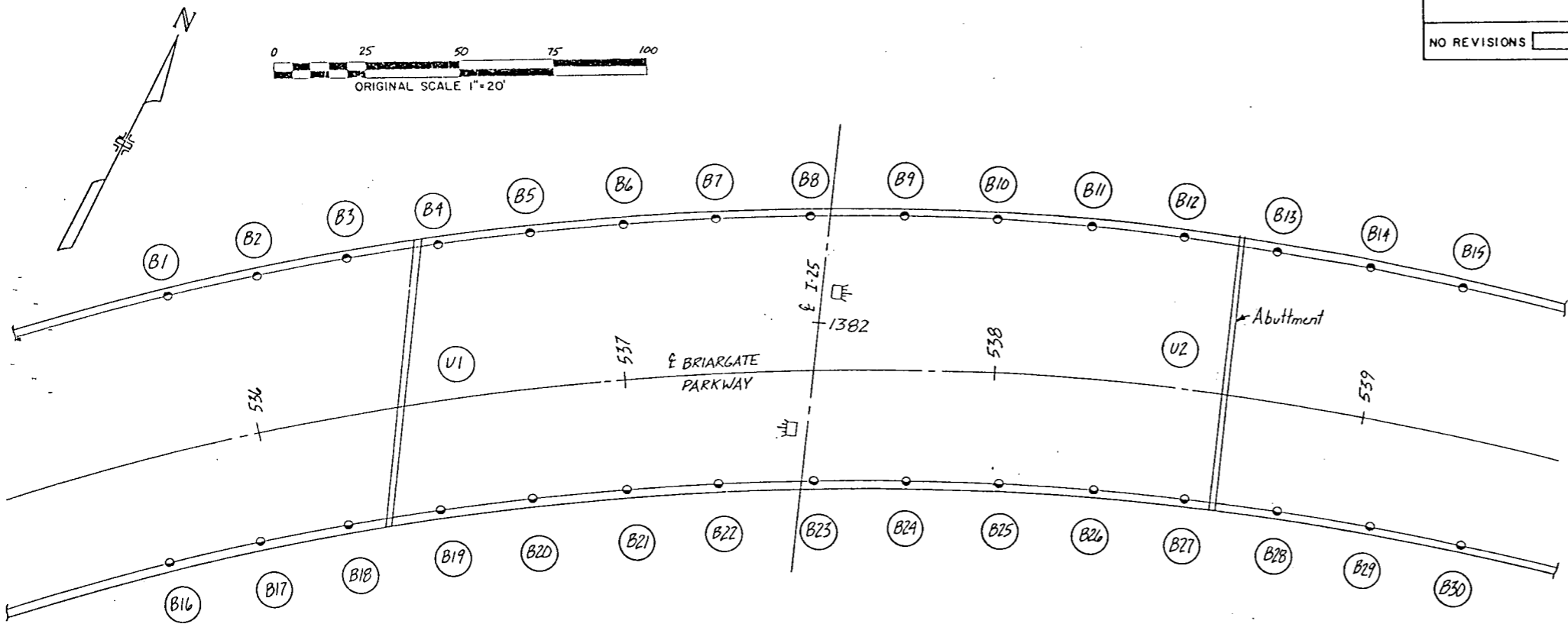
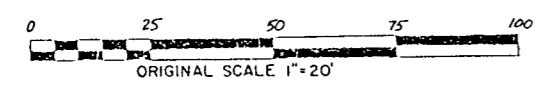
LUMINAIRE LAYOUT SCHEDULE

2	101 + 60.00	16	242 + 00.00	36	534 + 10.00
3	104 + 40.00	17	244 + 80.00	37	540 + 65.00
4	107 + 20.00	24	322 + 50.00	38	542 + 15.00
5	110 + 00.00	25	325 + 30.00	39	543 + 65.00
6	112 + 80.00	26	401 + 70.00	40	545 + 15.00
7	114 + 80.00	27	404 + 20.00	41	552 + 55.00
8	117 + 80.00	28	406 + 70.00	42	554 + 05.00
9	222 + 20.00	29	409 + 20.00	43	555 + 55.00
10	225 + 20.00	30	412 + 00.00	54	1376 + 30.00
11	228 + 00.00	31	414 + 80.00	55	1370 + 00.00
12	230 + 80.00	32	417 + 60.00	56	1378 + 80.00
13	233 + 60.00	33	420 + 40.00	57	1381 + 25.00
14	236 + 40.00	34	528 + 50.00	58	1383 + 70.00
15	239 + 20.00	35	531 + 30.00	59	1386 + 20.00

I 25/BRIARGATE PARKWAY INTERCHANGE

LIGHTING PLAN

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
1-18-85	URS	AMS	3	
		CHECKED BY	OF 4 SHEETS	



BRIDGE LUMINAIRE LAYOUT

BRIDGE LUMINAIRE LAYOUT SCHEDULE

B1	535 + 83.75	B17	535 + 94.30
B2	536 + 07.50	B18	536 + 20.25
B3	536 + 31.25	B19	536 + 46.20
B4	536 + 55.00	B20	536 + 72.15
B5	536 + 78.75	B21	536 + 98.10
B6	537 + 02.50	B22	537 + 24.05
B7	537 + 26.25	B23	537 + 50.00
B8	537 + 50.00	B24	537 + 75.95
B9	537 + 73.75	B25	538 + 01.90
B10	537 + 97.50	B26	538 + 27.85
B11	538 + 21.25	B27	538 + 53.80
B12	538 + 45.00	B28	538 + 79.75
B13	538 + 68.75	B29	539 + 05.70
B14	538 + 92.50	B30	539 + 31.65
B15	539 + 16.25	U1	1381 + 73.00
B16	535 + 68.35	U2	1381 + 97.00

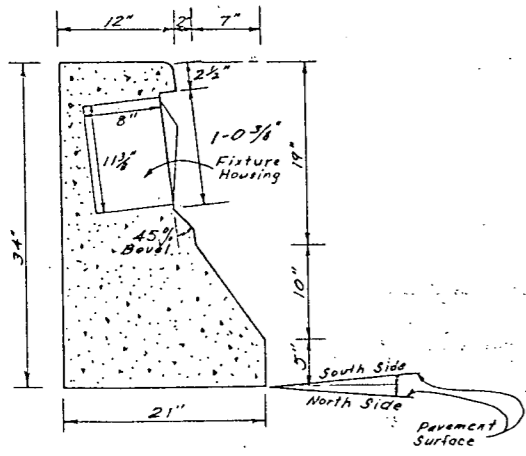
TABULATION OF LIGHTING

ITEM No.	ITEM	UNIT	ROADWAY	STR. No. I-17-IJ	TOTAL
613	LUMINAIRE H.P.S. (47K LUMEN)	EA.	59 54		59 54
613	RECESSED LIGHT	EA.		30*	30
613	LUMINAIRE H.P.S. (WALLTYPE) (12K LUMEN)	EA.		2	2
613	LIGHT STANDARD METAL (40 FOOT)	EA.	55 54		55 54
613	CONCRETE FOUNDATION PAD	EA.	55 54		55 54
613	2" ELECTRICAL CONDUIT	L.F.	15,340 146.08		15,340 146.08
613	WIRING	L.S.	0.9	0.1*	1

\* SHOWN ALSO ON BRIDGE TABULATION DWG. NO. B-1

BRIDGE LUMINAIRE SCHEDULE

NO.	DESCRIPTION	LAMP	MOUNT. HEIGHT
30	LLF1/100HPS 120/DB-E/LEXAN	100w HPS	2'
2	G.E. WL-400 Walllighter or EQUAL	150w HPS	15'



Typical Wall Section Luminaire Flush Mounted At 24"



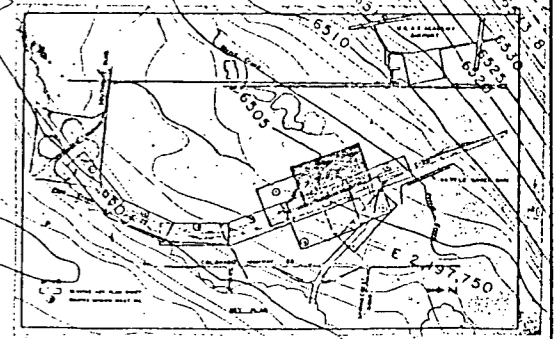
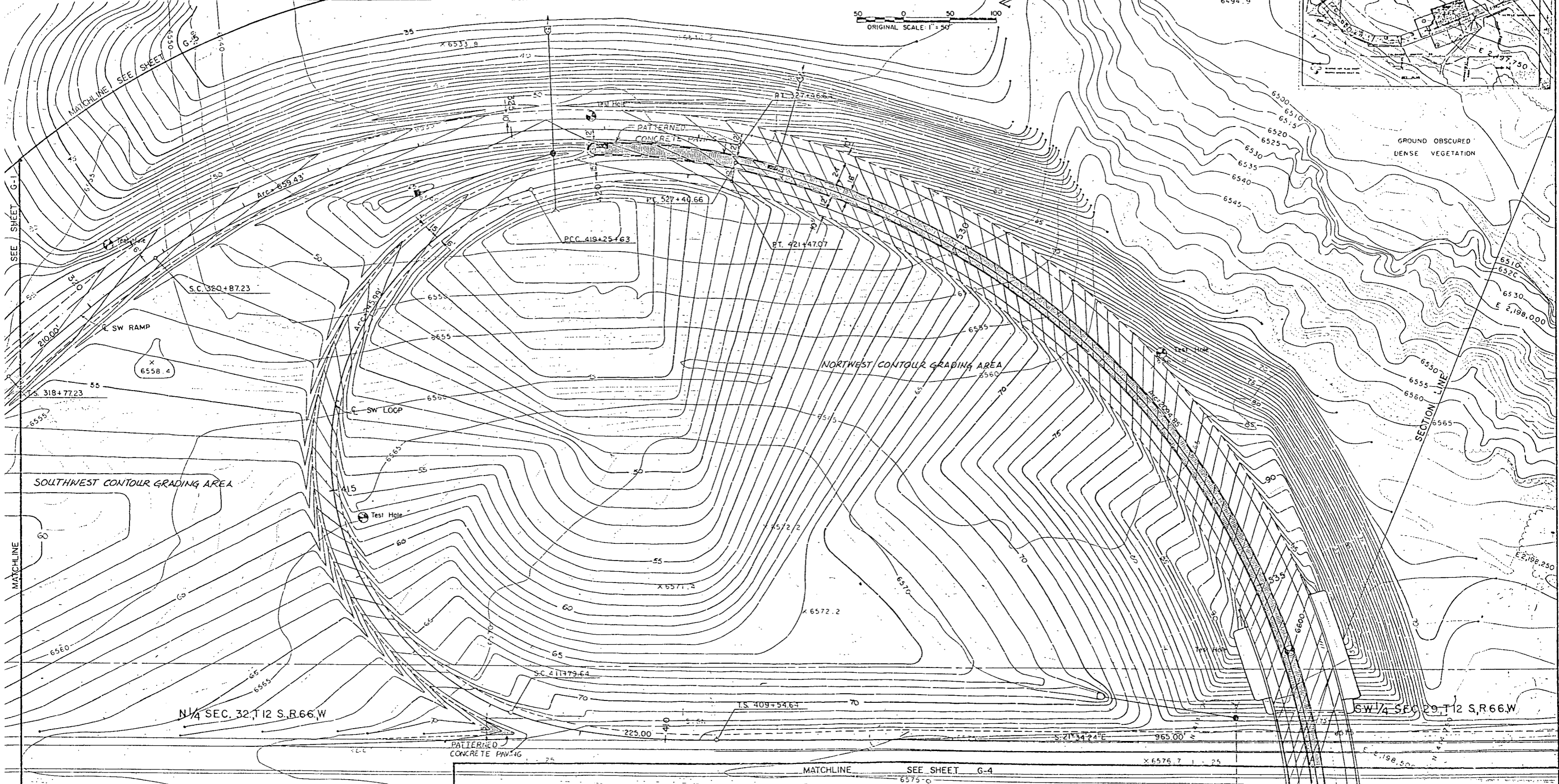
CURVE DATA

X 6534.9

CURVE NO.	Δ	Ts	Es	Es	Ls	Lr	Sr	Δc	Dc	Tc	Lc	Rc	e	M.D.S.	S.S.D.
500	---	---	---	8°04'19"	225.00'	150.15'	75.14'	150°18'45"	7°10'31"	3012.92'	2094.85'	798.51'	.067	40	>600'
320	---	---	---	7°21'00"	210.00'	140.12'	70.11'	46°09'36"	7°	348.79'	659.43'	818.51'	.067	40	>600'
410	---	---	---	2°22'30"	225.00'	151.11'	76.01'	141°44'15"	19°	869.31'	745.99'	301.56'	.078	30	>600'
420	---	---	---	28°47'20"	---	---	---	---	13°	1131.2'	221.45'	440.74'	.068	30	>600'

AS CONSTRUCTED  
 NO REVISIONS B-17-07 REVISED   VOID  

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 04-0025-19	93	



GROUND OBSCURED  
 DENSE VEGETATION

I 25/B'RIARGATE PARKWAY INTERCHANGE  
 GRADING PLAN

DATE	PROJECT NO.	DESIGNED BY MKH	SHEET NO.	DRAWING NO.
	URS	CHECKED BY MKH	OF SHEETS	G-2

PREPARED BY URS COMPANY DENVER

MATCHLINE SEE SHEET G-1 MATCHLINE SEE SHEET G-2

AS CONSTRUCTED

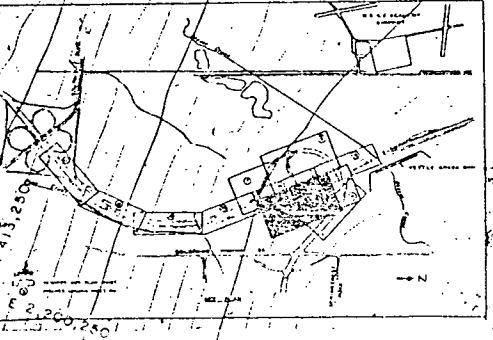
NO REVISIONS 17-07 REVISED VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	94	



CURVE DATA

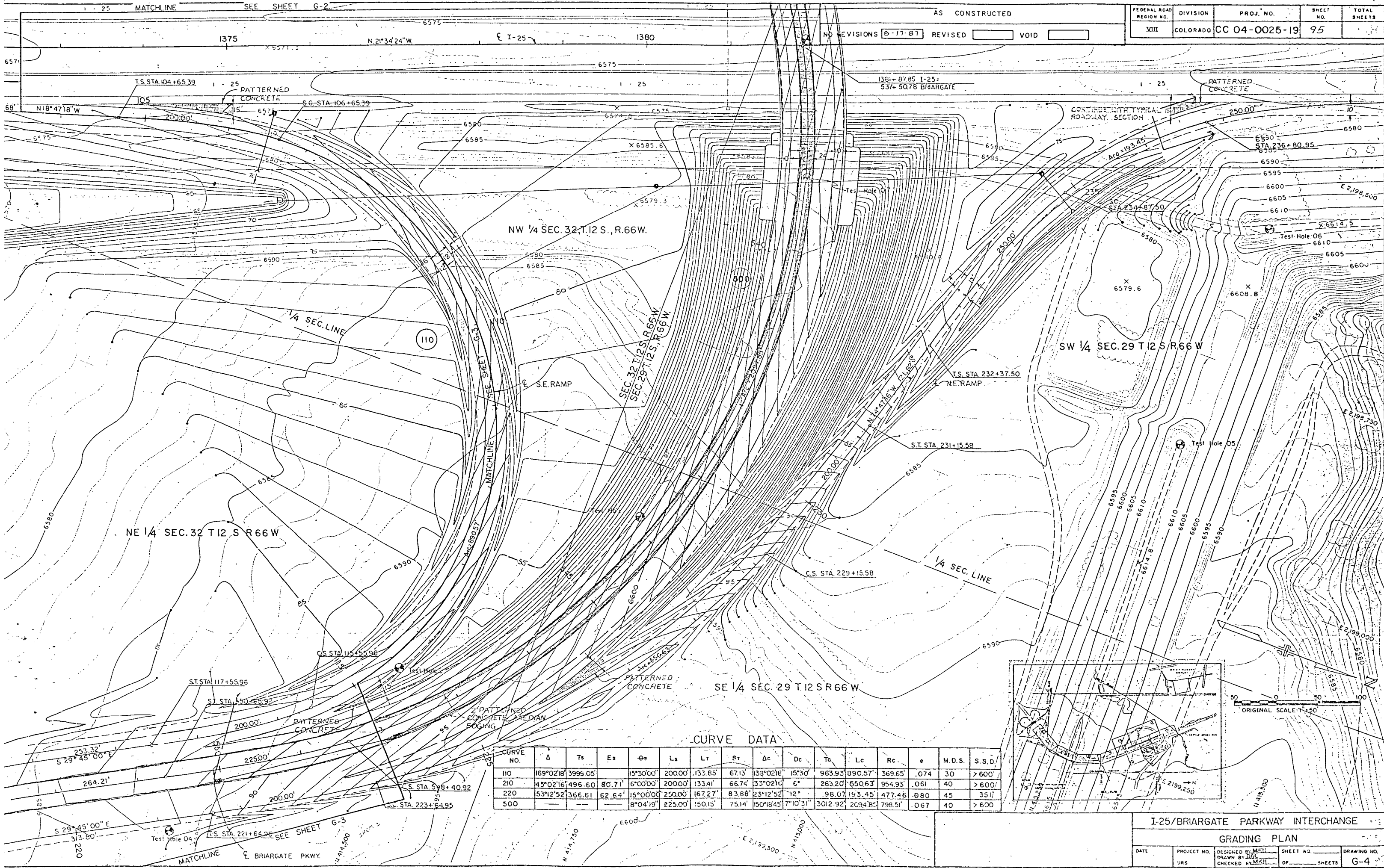
CURVE NO.	Δ	Ts	Es	e <sub>s</sub>	Ls	Lt	St	Δc	Dc	Tc	Lc	Rc	e	M.D.S.	S.S.D.
110	46°36'25"	3999.05'	15°30'00"	200.00'	133.85'	67.13'	138°02'43"	15°30'	952.51'	890.56'	369.65'	.074	30		
210	45°02'16"	496.60'	80.71'	5°00'00"	200.00'	133.41'	66.74'	33°02'16"	6'	283.20'	550.63'	954.93'	.061	40	



I-25/BRIARGATE PARKWAY INTERCHANGE

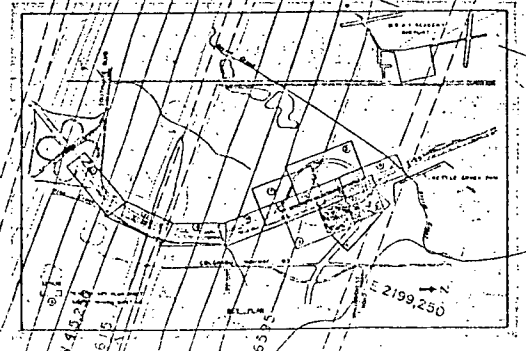
GRADING PLAN

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	MEH	94	G-3



CURVE DATA

CURVE NO.	Δ	Ts	Es	Os	Ls	Lt	St	Δc	Dc	Tc	Lc	Rc	e	M.D.S.	S.S.D.
110	169°02'18"	3995.05'	15°30'00"	200.00'	133.85'	67.13'	133°02'18"	15°30'	963.93'	890.57'	369.65'	.074	30	> 600'	
210	45°02'16"	496.60'	80.71'	6°00'00"	200.00'	133.41'	66.74'	33°02'16"	6°	283.20'	550.63'	954.93'	.061	40	> 600'
220	53°12'52"	366.61'	62.64'	15°00'00"	250.00'	167.27'	83.88'	23°12'52"	12°	98.07'	193.45'	477.46'	.080	45	351'
500			8°04'19"	225.00'	150.15'	75.14'	150°18'45"	7°10'31"	3012.92'	2094.85'	798.51'	.067	40	> 600'	



ORIGINAL SCALE 1"=50'

I-25/BRIARGATE PARKWAY INTERCHANGE  
 GRADING PLAN

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	G-4





### TABULATION OF SIGNING QUANTITIES

### SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES

ITEM NO.	ITEM	UNIT	PROJECT TOTALS	
202	REMOVAL OF DELINEATOR	EACH	<del>30</del>	75
202	REMOVAL OF PAVEMENT MARKINGS	SQ. FT.	<del>5000</del>	2820
202	REMOVAL OF OVERHEAD SIGN STRUCTURES	EACH	1	
202	REMOVAL OF GROUND SIGN	EACH	<del>11</del>	18
202	REMOVAL OF SIGN PANEL	EACH	1	
210	RESET GROUND SIGN	EACH	<del>2</del>	10
614	FLAGGING	HOUR	<del>5000</del>	5358.5
614	TRAFFIC CONTROL SUPERVISOR	DAY	<del>250</del>	277
614	UNIFORM TRAFFIC CONTROL	HOUR	200	
614	SIGN PANEL (CLASS I)	SQ. FT.	<del>306</del>	307
614	SIGN PANEL (CLASS II)	SQ. FT.	434	
614	SIGN PANEL (CLASS III)	SQ. FT.	<del>3332</del>	3208
614	TIMBER SIGN POST 4x4 INCH	LIN. FT.	201	
614	TIMBER SIGN POST 6x6 INCH	LIN. FT.	<del>598</del>	613
614	STEEL SIGN POST (W6x15)	LIN. FT.	35	
614	STEEL SIGN POST (W8x18)	LIN. FT.	72	
614	STEEL SIGN POST (W10x22)	LIN. FT.	46	
614	CONCRETE FOOTING (TYPE 2)	EACH	2	
614	CONCRETE FOOTING (TYPE 3)	EACH	4	
614	CONCRETE FOOTING (TYPE 5)	EACH	2	
614	CONCRETE FOOTING VI (SPREAD)	EACH	3	
614	CONCRETE FOOTING I-S (SPREAD)	EACH	<del>1</del>	0
614	CONCRETE FOOTING II-S (SPREAD)	EACH	<del>2</del>	6
614	CONCRETE FOOTING III-S (SPREAD)	EACH	<del>10</del>	8
614	MODIFICATION OF SIGN LEGEND	L.S.	1	
614	SIGN BRIDGE STRUCTURE (60x65 FOOT FRAME)	EACH	1	
614	SIGN BRIDGE STRUCTURE (65x70 FOOT FRAME)	EACH	2	
614	SIGN BRIDGE STRUCTURE (75x80 FOOT FRAME)	EACH	3	
614	SIGN BRIDGE STRUCTURE (80x85 FOOT FRAME)	EACH	1	
614	BALANCED BUTTERFLY STRUCTURE	EACH	2	
614	CANTILEVER STRUCTURE (20x25 FOOT FRAME)	EACH	1	
614	CANTILEVER STRUCTURE (25x30 FOOT FRAME)	EACH	2	
614	FLASHING BEACON (PORTABLE)	EACH	<del>8</del>	4
614	BARRICADE (TYPE 3M-B) (TEMP.)	EACH	4	
614	BARRICADE (TYPE 3M-C) (TEMP.)	EACH	4	
614	BARRICADE (TYPE 3F-D) *	EACH	1	
614	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EACH	<del>5</del>	2
614	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	EACH	<del>54</del>	57
614	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE C)	EACH	<del>28</del>	30
614	VERTICAL PANEL	EACH	<del>250</del>	275
614	VERTICAL PANEL (WITH LIGHT) (FLASHING)	EACH	25	
614	ADVANCE WARNING: FLASHING OR SEQUENCING	EACH	<del>4</del>	2
614	ARROW PANEL (C TYPE)	EACH	<del>60</del>	35
614	DRUM CHANNELIZING DEVICE	EACH	<del>150</del>	150
627	EPOXY PAVEMENT MARKING	SQ. FT.	<del>29120</del>	25129
627	PRE-FORMED PLASTIC PAVEMENT MARKING (60M/LS)	SQ. FT.	<del>429</del>	289.5

▲ THIS ITEM SHALL BE SALVAGED AND HAULED TO A BRAIRGATE STORAGE SITE AS DIRECTED BY THE ENGINEER.

\* TYPE 3F-D BARRICADE (140') SHALL BE INSTALLED PERMANENTLY ON THE EAST LEG OF THE SH 83/BRAIRGATE PARKWAY INTERSECTION.

SIGN CODE	LEGEND	DIMENSIONS	PANEL SIZE			ITEM	QUANTITY	UNIT
			A	B	C			
48R11-2	ROAD/CLOSED	48x30		4		FLAGGING	5311.5 <del>5000</del>	HOUR
48W1-6	ARROW SIGN	48x24		5		TRAFFIC CONTROL SUPERVISOR	277 <del>250</del>	DAY
48W4-2(L)	SYMBOL (LANE DROP)	48x48		4		UNIFORM TRAFFIC CONTROL	200	HOUR
48W4-2(R)	SYMBOL (LANE DROP)	48x48		4		FLASHING BEACON (PORTABLE)	4 <del>8</del>	EACH
48W20-1	ROAD/CONSTRUCTION/XX MILE	48x48		12		BARRICADE (TYPE 3M-B) (TEMP.)	4	EACH
48W20-5	(RIGHT, LEFT) LANE/CLOSED/XXX	48x48		12		BARRICADE (TYPE 3M-C) (TEMP.)	4	EACH
48W20-7a	SYMBOL (FLAGGER)	48x48		4		VERTICAL PANEL	275 <del>250</del>	EACH
60620-2	END/CONSTRUCTION	60x24		4		VERTICAL PANEL (W. LIGHT) (FLASH)	25	EACH
						ADVANCE WARNING FLASHING OR SEQUENCING ARROW (C TYPE)	2 <del>4</del>	EACH
						DRUM CHANNELIZING DEVICE	35 <del>50</del>	EACH
						CONCRETE BARRIER (TEMP.)	1286	FEET
SPECIAL	SIGN No. 2 (SEE OVERHEIGHT VEHICLE DETOUR DETAILS)	10'x6'			1	TRAFFIC CONE 28"	150 <del>200</del>	EACH
SPECIAL	SIGN No. 3	10'x6'			1			
SPECIAL	SIGN No. 4	7'x5'			2			
SPECIAL	SIGN No. 5	7'x5'			2			
SPECIAL	SIGN No. 6	10'x6'			2			
SPECIAL	SIGN No. 7	10'x6'			2			
SPECIAL	SIGN No. 8	7'x4'			4			
SPECIAL	SIGN No. 9	10'x2'			6			
SPECIAL	SIGN No. 10	4'x3'			2			
SPECIAL	SIGN No. 11	5'x3'			2			
SPECIAL	SIGN No. 12	5'x3'			6			
SIGN TOTALS						5	54	20

2 57 30

### TABULATION OF CONDUITS

LOCATION	3" ELECTRICAL CONDUIT (LIN. FT.)	3" ELECTRICAL CONDUIT (JACKED) (LIN. FT.)	POST TYPE METER DISCONNECT
1275+00	200	50	1
1310+00	300	150	1
1312+00	200	50	—
1323+50LT.	50	—	1
1329+00	100	160	1
1343+00	290	—	—
1345+00RT.	—	—	2
1347+00	260	50	—
1370+50RT.	50	—	2
1375+00LT.	350	—	—
1379+00LT.	—	—	3
1380+00RT.	—	—	2
1414+50	50	50	1
1428+50	50	100	1
1554+50 (Brairgate)	50	—	3
807+50RT. (S.H. 83)	—	—	3
TOTALS	1950	1809	21

SEE SHEET 98 FOR DETAIL. INSTALLATION TO BE PAID FOR UNDER ITEM 613, 2 INCH ELECTRICAL CONDUIT. PAYMENT FOR 18 LINEAR FEET WILL INCLUDE ALL WORK NECESSARY TO COMPLETE THE ITEM.

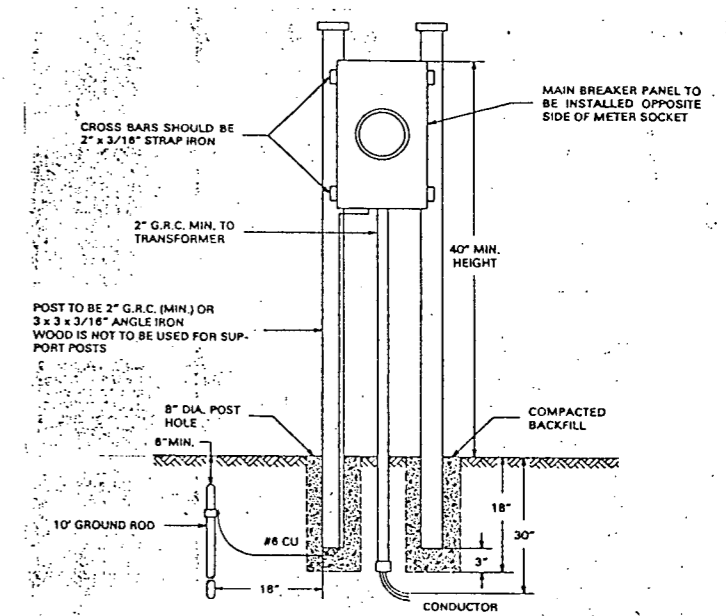
TABULATION OF OVERHEAD SIGNS

SIGN NO.	STATION	SIGN PANEL SIZE	BACK-GROUND COLOR	NO. OF POSTS	TYPE OF POST	STRUCTURE TYPE	FRAME SIZE	STRUCTURE NUMBER	SIGN PANEL CLASS I (SQ. FT.)	SIGN PANEL CLASS II (SQ. FT.)	SIGN PANEL CLASS III (SQ. FT.)	TYPE OF FOOTING	COMMENTS
1A	1275+00	15' x 13'	GREEN	2	III-S	SIGN BRIDGE	60' SPAN	I-17-IM			189.00	III-S	
1B		13' x 13'	GREEN								165.00		
3B	1299+60												MODIFY LEGEND
3C		16' x 11'-2"	GREEN			EXISTING SIGN BRIDGE		I-17-EL			172.67		REMOVE EXISTING PANEL (1)
5	1312+00	16' x 11'	GREEN	1	VI	CANTILEVER	22'	I-17-IO			170.00	VI	
6A	1323+50	13' x 13'	GREEN	2	III-S	SIGN BRIDGE	76' SPAN	I-17-EO			165.00	<del>III-S</del> IV-S	REMOVE EXISTING STRUCTURE
6B		18' x 13'	GREEN								228.00		
6C		17'-8" x 2'-6"	YELLOW						44.17				
7A	1310+00	13' x 10'	GREEN	2	III-S	SIGN BRIDGE	69' SPAN	I-17-IN			124.00	III-S	
7B		18' x 10'	GREEN								174.00		
17A	1347+00	13' x 13'	GREEN	2	III-S	SIGN BRIDGE	76' SPAN	I-17-IR			165.00	III-S	
17B		15' x 13'	GREEN								189.00		
17C		14'-8" x 2'-6"	YELLOW						36.67				
19	1329+00	23' x 7'	GREEN	1	II-S	BUTTERFLY	23'	I-17-IP			161.00	II-S	
22A	1343+00	13' x 10'	GREEN	1	VI	CANTILEVER	29'	I-17-IQ			124.00	VI	
22B		12'-8" x 2'-6"	YELLOW						31.67				
30A	1375+34	15' x 12'	GREEN	2	III-S	SIGN BRIDGE	76' SPAN	I-17-IT			174.00	III-S	
30B		13' x 12'	GREEN								150.00		
30C		12'-8" x 2'-6"	YELLOW						31.67				
32A	1370+50	17' x 10'	GREEN	2	I-S	SIGN BRIDGE	84' SPAN	I-17-IS			156.00	<del>I-S</del> II-S	
32B		16'-8" x 2'-6"	YELLOW						41.67				
38	1414+50	24' x 7'	GREEN	1	II-S	BUTTERFLY	24'	I-17-IU			168.00	II-S	
41	1428+50	13' x 9'	GREEN	1	VI	CANTILEVER	29'	I-17-IV			111.00	VI	
56A	BRIARGATE 554+50	16' x 9'	GREEN	2	I-S	SIGN BRIDGE	66' SPAN	I-17-IW			144.00	<del>I-S</del> II-S	
56B		10' x 9'	GREEN								90.00		
TOTAL PANEL FOR OVERHEAD SIGNS									185.85		3019.67 2895.67		

NOTES FOR OVERHEAD SIGNS

- PANELS FOR OVERHEAD SIGNS SHALL BE SHEET ALUMINUM. SEE "CLASS III SIGNS, SHEETS 1 AND 2" INCLUDED IN THE PLANS FOR PANEL AND BACKING ZEE REQUIREMENTS. SEE DEPARTMENT STANDARD "CLASS I GROUND SIGN INSTALLATIONS" FOR CLASS I PANEL REQUIREMENTS; MINIMUM THICKNESS IS REDUCED TO 0.080".
- CLASS III AND CLASS I PANELS SHALL HAVE A SMOOTH SURFACE TYPE REFLECTIVE SHEETING BACKGROUND.
- LEGEND AND BORDER FOR GREEN BACKGROUND SIGNS SHALL BE SYSTEM 1 OR SYSTEM 2 AND FOR YELLOW BACKGROUND SIGNS SHALL BE SYSTEM 4. SEE SECTION 713 OF THE STANDARD SPECIFICATIONS.

POST TYPE METER DISCONNECT



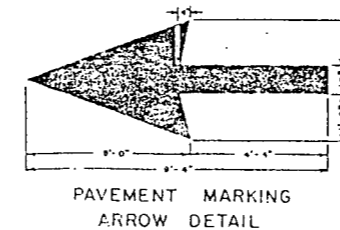
- NOTES:
- PEDESTAL MUST BE PLACED WITHIN 10 FEET OF EXISTING TRANSFORMER OR SECONDARY PULL BOX.
  - BOTH POSTS MUST BE GROUNDED.

# TABULATION OF PAVEMENT MARKINGS

AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO REVISIONS	REVISED	VOID	VIII	COLORADO	CC 04-0025-19	99	

STATION	LOCATION	PAVEMENT MARKING LINES (Linear Feet)										
		EDGE		LANE	CENTER		CHANNELIZING		CROSSHATCH		CROSS-WALK	STOP
		WHITE SOLID 4 INCH	YELLOW SOLID 4 INCH	WHITE BROKEN 5 INCH	YELLOW SOLID 5 INCH	YELLOW BROKEN 5 INCH	WHITE SOLID 10 INCH	YELLOW SOLID 10 INCH	WHITE SOLID 10 INCH	YELLOW SOLID 10 INCH	WHITE SOLID 12 INCH	WHITE SOLID 24 INCH
1323+50 to 1348+55	I 25 SB	2505		2505								
1351+60 to 1373+00	I 25 SB	2140										
1373+00 to 1375+25	I 25 SB							225				
1375+25 to 1395+30	I 25 SB	2005		2005								
1322+15 to 1370+50	I 25 NB	4835		4835								
1370+50 to 1376+10	I 25 NB							560				
1376+10 to 1390+40	I 25 NB	1430										
298+72 to 327+46	SW Ramp	2874		2874								
301+72 to 311+10	SW Ramp							938				
311+10 to 327+46	SW Ramp		1636									
409+60 to 421+47	SW Loop Ramp	1187										
409+60 to 411+30	SW Loop Ramp							220				
411+80 to 421+47	SW Loop Ramp		967									
527+46 to 561+10	Briargate Pkwy EB		3364									
527+46 to 550+00	Briargate Pkwy EB	2254										
550+00 to 561+10	Briargate Pkwy EB	1110		2220								
554+20 to 561+10	Briargate Pkwy EB							980				
95+56 to 101+50	SE Ramp			594								
101+50 to 106+00	SE Ramp	450						450				
101+50 to 117+56	SE Ramp	1606										
106+00 to 117+56	SE Ramp			1156								
106+00 to 115+00	SE Ramp		900									
115+00 to 116+80	SE Ramp							180				
223+65 to 250+00	NE Ramp	2635										
223+65 to 225+80	NE Ramp							215				
225+80 to 236+90	NE Ramp		1110									
236+90 to 240+50	NE Ramp							360				
240+50 to 244+00	NE Ramp			350								
527+46 to 546+00	Briargate Pkwy WB	1854										
527+46 to 561+10	Briargate Pkwy WB		3364	3364								
546+00 to 548+30	Briargate Pkwy WB							230				
548+30 to 561+10	Briargate Pkwy WB	1280		1280								
765+93 to 790+93	SH 83 NB & SB	1000			500	500						(APPROACH TO TRANSITION)
790+93 to 797+53	SH 83 NB & SB	1320						1320				(TRANSITION)
797+53 to 801+28	SH 83 SB	375										
801+28 to 805+00	SH 83 SB	372		372								
806+50 to 810+90	SH 83 SB	440		440				880				
810+90 to 815+55	SH 83 SB	465		465								
815+55 to 818+66	SH 83 SB	311		311				360				
818+66 to 819+91	SH 83 SB	125		250								
819+91 to 824+44	SH 83 SB	453		453								
824+44 to 831+04	SH 83 SB & NB	1320										1320 (TRANSITION)
831+04 to 836+04	SH 83 SB & NB	500			500	500						(APPROACH TO TRANSITION)
797+53 to 800+73	SH 83 NB	320		320								
800+73 to 805+00	SH 83 NB	427		427				854				
806+50 to 816+06	SH 83 NB	1156		1156								
816+06 to 816+56	SH 83 NB	50		400								
816+56 to 817+06	SH 83 NB	50		50				50				
817+06 to 819+44	SH 83 NB	189		189								

STATION	LOCATION	PAVEMENT MARKING LINES (Linear Feet)										
		EDGE		LANE	CENTER		CHANNELIZING		CROSSHATCH		CROSS-WALK	STOP
		WHITE SOLID 4 INCH	YELLOW SOLID 4 INCH	WHITE BROKEN 5 INCH	YELLOW SOLID 5 INCH	YELLOW BROKEN 5 INCH	WHITE SOLID 10 INCH	YELLOW SOLID 10 INCH	WHITE SOLID 10 INCH	YELLOW SOLID 10 INCH	WHITE SOLID 12 INCH	WHITE SOLID 24 INCH
816+00 to 819+20	SH 83 SB											
819+20 to 820+40	SH 83 SB							120			320	
805+00 to 806+40	SH 83 NB							140				
561+10 to 562+00	Briargate Pkwy EB							90				
600+70 to 603+00	Springcrest Road	460						460				16
561+10	Briargate Pkwy										176	60
562+40	Briargate Pkwy										176	
805+00	SH 83										96	48
806+60	SH 83										96	48
	NW ISLAND										140	
	SW ISLAND										290	
	NE ISLAND										200	
	SE ISLAND										235	
PROJECT TOTALS	LINEAR FEET	37,498	11,341	26,066	1460	1854	6833	2640			544	172
PRE FORMED PLASTIC PAVEMENT MARKING (60 MIL) - ARROWS												
803+50	SH 83 NB	1	2	1							(69.00 SQ. FT.)	
804+50	SH 83 NB	1	2								(44.00 SQ. FT.)	
807+00	SH 83 SB	2	2								(57.00 SQ. FT.)	
808+00	SH 83 SB	2	3								(72.00 SQ. FT.)	
809+00	SH 83 SB		1								(15.50 SQ. FT.)	
559+40	Briargate Pkwy EB		1								(15.50 SQ. FT.)	
559+60	Briargate Pkwy EB	3	2								(70.00 SQ. FT.)	
560+40	Briargate Pkwy EB		1								(15.50 SQ. FT.)	
560+60	Briargate Pkwy EB	3	2								(70.00 SQ. FT.)	
	TOTALS	12	16	1							429	SQ. FT.



- NOTES:  
FOR DETAILS OF PAVEMENT MARKING LINES AND LINE PLACEMENT, SEE STANDARD S-627-1.
- ▲ = THERMOPLASTIC PAVEMENT MARKING
  - = PLASTIC PAVEMENT MARKING (60 MILS)
  - = PLASTIC PAVEMENT MARKING (90 MILS)

SUMMARY OF PAVEMENT MARKING QUANTITIES			
COLOR	EPOXY PAVEMENT MARKING (SQ. FT.)	PLASTIC PVMT MKG. (60 MILS) (SQ. FT.)	PLASTIC PVMT MKG. (90 MILS) (SQ. FT.)
YELLOW	6781		
WHITE	22,339	429	
TOTAL	29,120	429	
	25,129	289.5	



AS CONSTRUCTED  
 NO REVISIONS **B-17-87** REVISED  VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLO.	CC 04-0025-19	101	

TABULATION OF SIGNS

SIGN NO.	SIGN CODE	STATION	SIGN PANEL SIZE	BACK-GROUND COLOR	REMOVE GROUND SIGN (EACH)	RESET GROUND SIGN (EACH)	NO. OF POSTS	LENGTH OF POST	POST TYPE (LIN. FT.)											CONC. FOOTING TYPE (EACH)								SIGN PANEL (SQ. FT.)							
									4 x 4 TIMBER	6 x 6 TIMBER	W6X12 BEAM	W6X15 BEAM	W8X18 BEAM	W8X21 BEAM	W10X22 BEAM	W10X26 BEAM	W12X35 BEAM	W12X40 BEAM	U-2	1	2	3	4	5	6	7	8	CLASS I	CLASS II	CLASS III					
36	48W4-1(R)	1384+50	DIAMOND 48"x48"	YELLOW			1	18'-6"		18.5																							16.00		
37	SPECIAL	1401+00	13'x7'	GREEN			2	19'-6"						39.0																				85.00	
38	SEE TABULATION OF OVERHEAD SIGNS																																		
39a	30M3-1a	1405+00	30"x15"	BLUE			1	18'-0"		18.0																								3.13	
39b	36M1-1(25)		SHIELD 36"x36"	RED/BLUE																														9.00	
40	48R2-1(55)	1415+00	48"x60"	WHITE			1	18'-6"		18.5																								20.00	
41	SEE TABULATION OF OVERHEAD SIGNS																																		
42	SPECIAL	1425+00	13'x4'	GREEN			1	17'-0"																										52.00	
43	36R2-1(55)	SH 83 799+00	36"x48"	WHITE			1	17'-6"		17.5																								12.00	
44a	24M-3-5	SH 83 801+00	24"x12"	WHITE			1	16'-0"		16.0																								2.00	
44b	24M1-6A(83)		24"x24"	WHITE																														4.00	
45	36W4-2	SH 83 803+00	DIAMOND 36"x36"	YELLOW				17'-0"		17.0																								9.00	
46	36R1-2	BRIARGATE 561+35	DIAMOND 36"x36"	WHITE			1	14'-6"		14.5																								3.90	
47	24R4-7	SH 83 805+00	24"x30"	WHITE			1	14'-6"		14.5																								5.00	
48	30R3-5(L)	SH 83 805+25	30"x36"	WHITE	MOUNT ON	SPANWIRE																												7.50	
49	30R3-5(L)	SH 83 805+25	30"x36"	WHITE	MOUNT ON	SPANWIRE																												7.50	
50	DELETED																																		
51	30R3-7(R)	BRIARGATE 558+50	30"x30"	WHITE			1	14'-0"		14.0																								6.25	
52	36W3-3	BRIARGATE 556+00	DIAMOND 36"x36"	YELLOW			1	17'-0"		17.0																								9.00	
53	SEE TABULATION OF OVERHEAD SIGNS																																		
53a	24M3-1		24"x12"	WHITE																														2.00	
53b	24M1-6A(83)		24"x24"	WHITE																														4.00	
53c	21M5-1(L)	BRIARGATE 554+75	21"x15"	WHITE			1	18'-0"		18.0																								2.19	
53d	24M3-1		24"x12"	WHITE																														2.00	
53e	24M1-6A(83)		24"x24"	WHITE																														4.00	
53f	21M5-1(R)		21"x15"	WHITE																														2.19	
54	SEE TABULATION OF OVERHEAD SIGNS																																		
54a	24M3-1		24"x12"	WHITE																														2.00	
54b	24M1-6A(83)		24"x24"	WHITE																														4.00	
54c	21M5-1(L)	BRIARGATE 554+50	21"x15"	WHITE																															2.19
54d	24M3-1		24"x12"	WHITE																														2.00	
54e	24M1-6A(83)		24"x24"	WHITE																														4.00	
54f	21M5-1(R)		21"x15"	WHITE																														2.19	
55	SEE TABULATION OF OVERHEAD SIGNS																																		
55a	21M2-1	BRIARGATE 550+50	21"x15"	WHITE			1	15'-0"		15.0																								2.19	
55b	24M1-6A(83)		24"x24"	WHITE																														4.00	
57	36R2-1(40)	BRIARGATE 559+00	36"x48"	WHITE			1	17'-6"		17.5																									12.00
58	24R4-7	BRIARGATE 561+00	24"x30"	WHITE			1	12'-6"		12.5																								5.00	
59	30R3-7(R)	SH 83 810+00	30"x30"	WHITE			1	14'-0"		14.0																								6.25	
60	36W3-3	SH 83 813+00	DIAMOND 36"x36"	YELLOW			1	17'-0"		17.0																								9.00	
61	36R2-1(40)	SH 83 825+00	36"x48"	WHITE			1	17'-6"		17.5																								12.00	
62	36R4-7	SH 83 825+50	36"x48"	WHITE			1	15'-6"		15.5																								12.00	

NOTES:

- 1. POST LENGTHS ARE APPROXIMATE ONLY. EXACT LENGTHS TO BE DETERMINED BY THE ENGINEER.

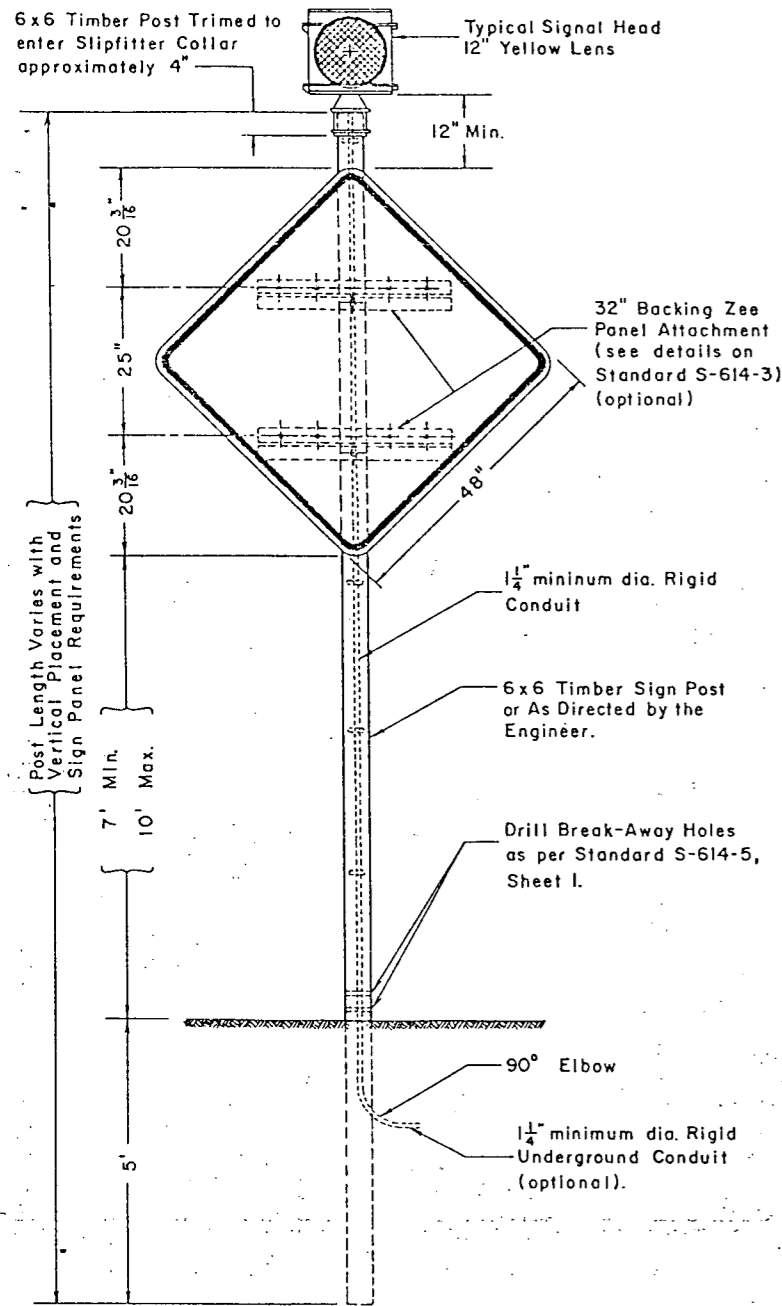


# FLASHING BEACON (PORTABLE)

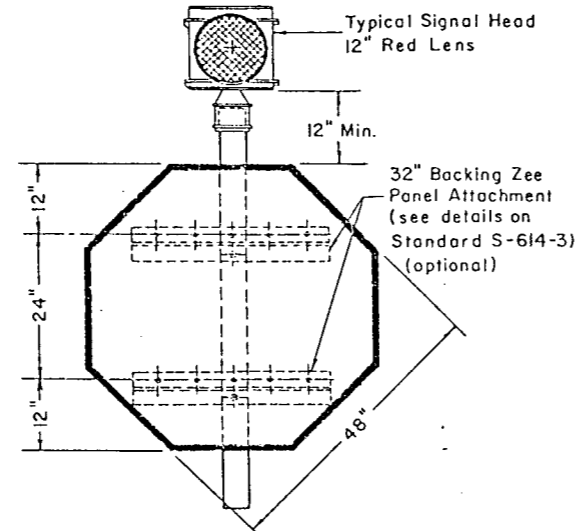
FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	103	
AS CONSTRUCTED				
NO REVISIONS	8-17-87	REVISED		VOID

## TYPICAL ELEVATION FACING TRAFFIC

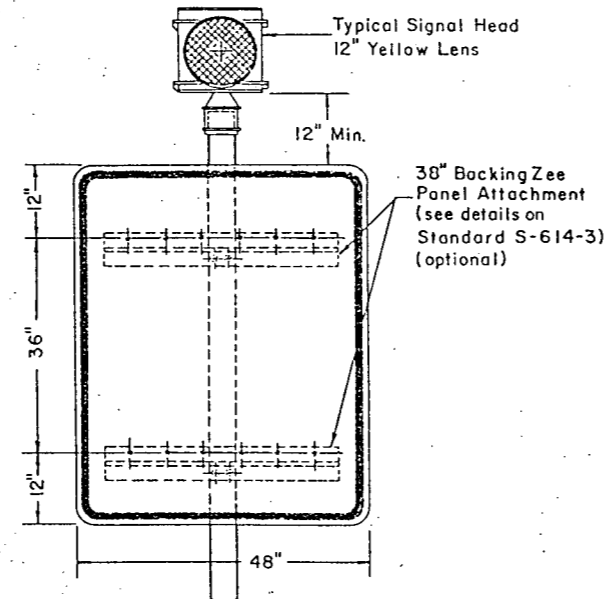
### COMPLETE INSTALLATION with DIAMOND PANEL



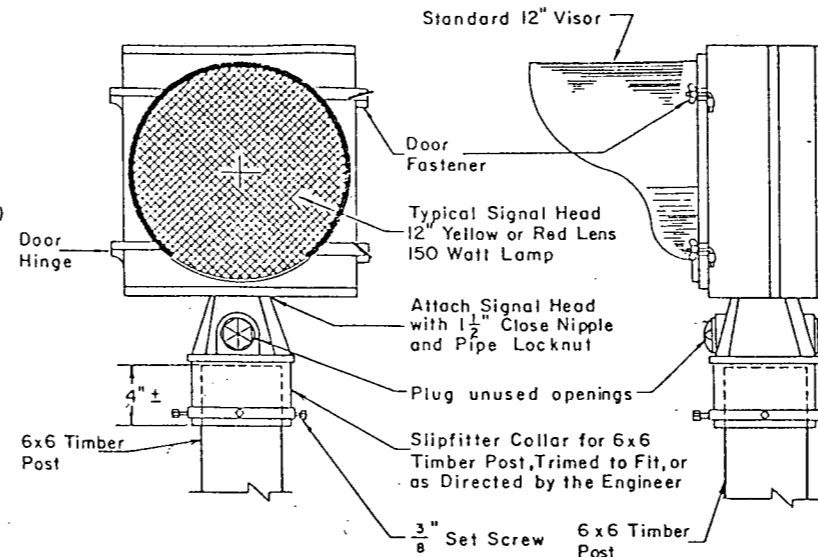
### with OCTAGON PANEL



### with RECTANGLE PANEL

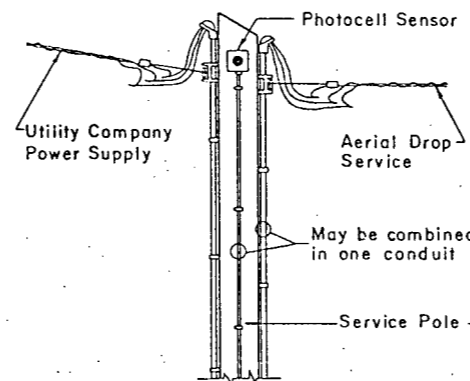


## TYPICAL SIGNAL HEAD - 12" LENS

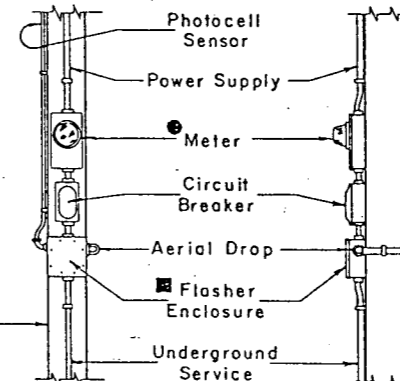


## TYPICAL ELECTRICAL SERVICE DETAILS

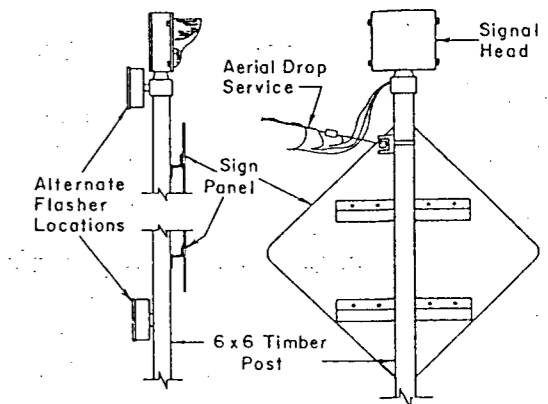
### VIEW AT POWER SOURCE



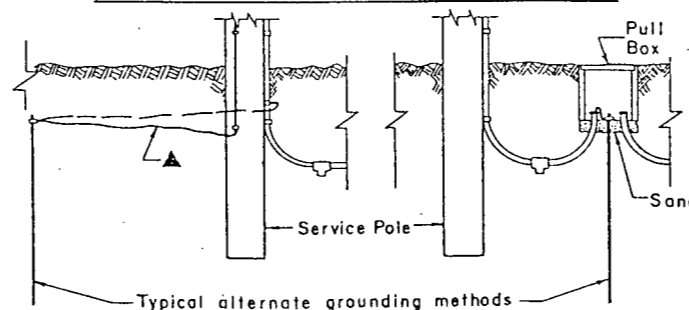
### VIEWS AT ENCLOSURES



### VIEWS AT BEACON



### UNDERGROUND VIEWS AT POWER SOURCE

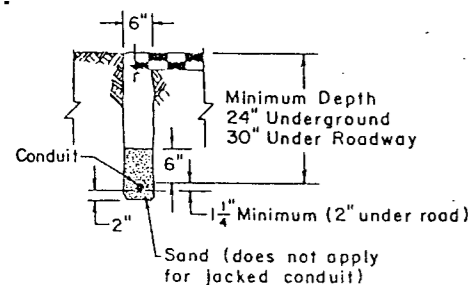


### NOTES

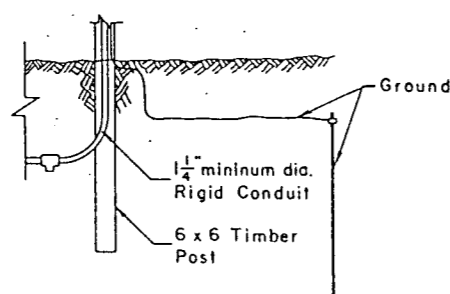
Location and configuration of electrical equipment is diagrammatic only (use any method complying with the General Notes).

- ▲ Existing ground at service pole; otherwise pull thru conduit or attach to conduit and top off underground.
- Provide weep hole with aerial drop service.
- Optional (Per Utility Company Requirements)

### TRENCHING DETAIL



### UNDERGROUND VIEW AT BEACON



DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO  
DIVISION OF HIGHWAYS  
FLASHING BEACON  
(PORTABLE)  
DETAILS

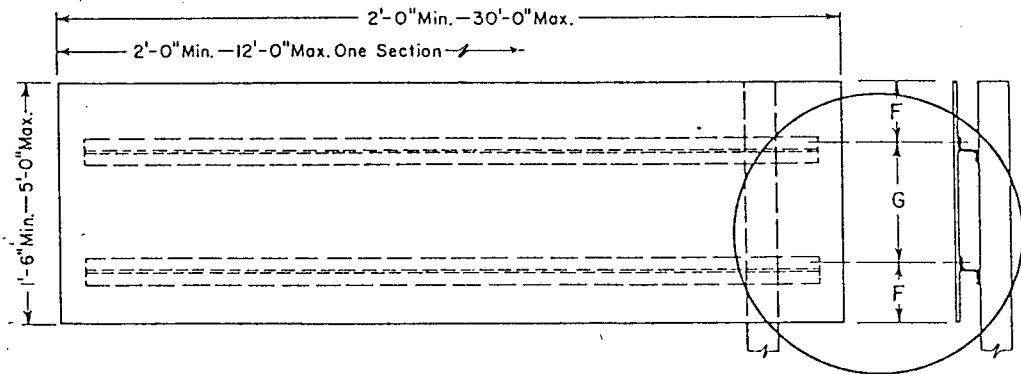
# CLASS III SIGNS - SHEET I

AS CONSTRUCTED		
NO REVISIONS	8-17-87	REVISED
		VOID

FEDERAL ROAD REGION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 04-0025-19	104	

REVISIONS		

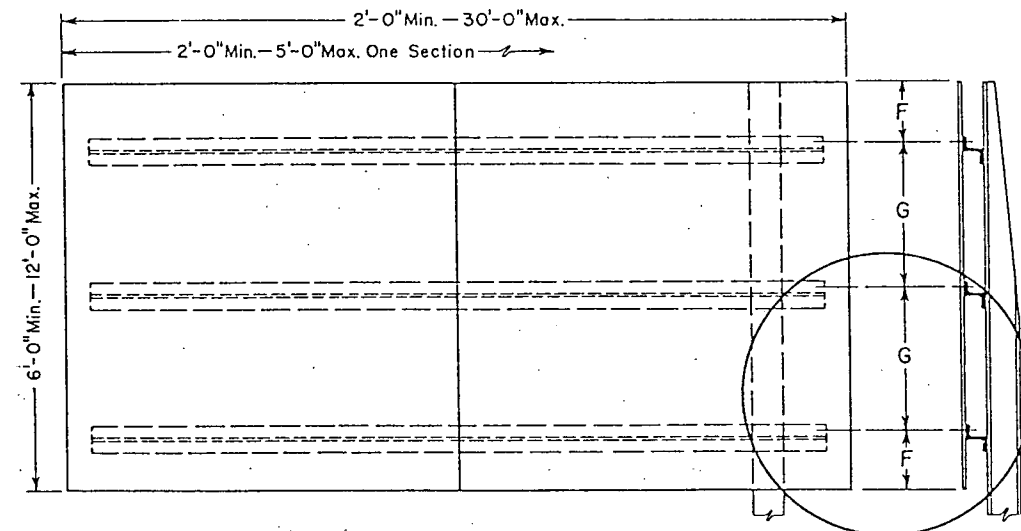
## TYPICAL PANEL ELEVATIONS HORIZONTAL SECTIONS



**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

SEE TYPICAL  
DETAIL  
ON SHEET 2

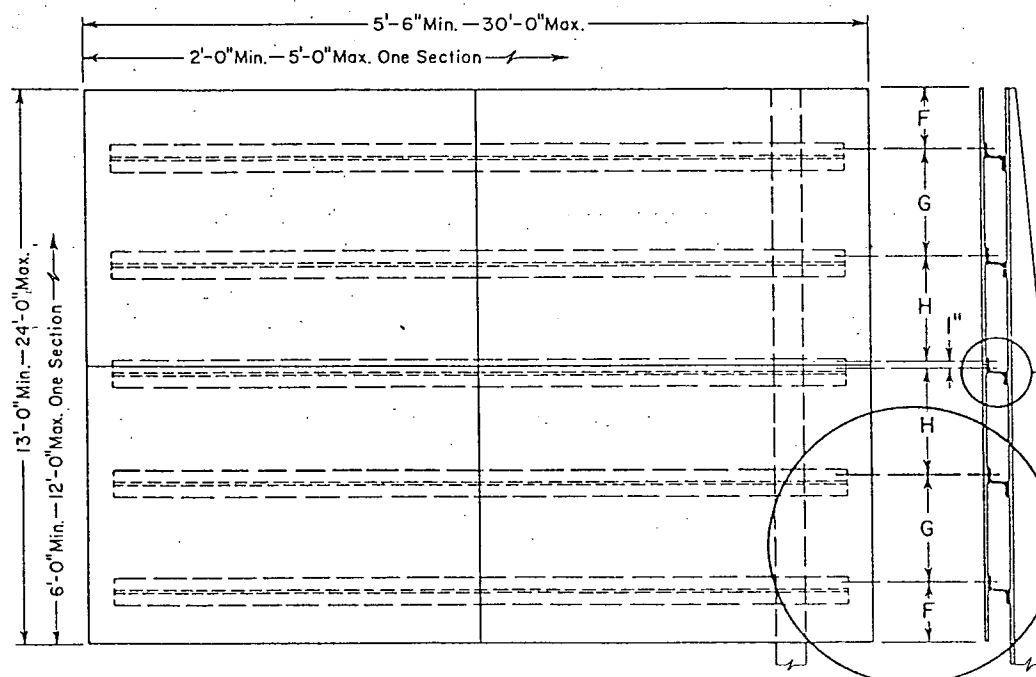
## VERTICAL SECTIONS



**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

SEE TYPICAL  
DETAIL  
ON SHEET 2

## 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

SEE TYPICAL SEAM  
CLOSURE ZEE  
DETAIL ON SHEET 2

SEE TYPICAL  
DETAIL  
ON SHEET 2

## 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. Ogee 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 - D1763, 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.

## SPACING TABLE FOR ALUMINUM BACKING ZEES

SIGN NO.	PANEL SIZE	NO. OF ZEES	ZEE SIZE	OVERHANG "F"	SPACING "G"	SPACING "H"
* 1A, 17B	15'-0" x 13'-0"	7	3" x 2 1/16" x 2.33	1'-0"	1'-10"	1'-9 1/2"
* 1B	13'-0" x 13'-0"	7	3" x 2 1/16" x 2.33	1'-0"	1'-10"	1'-9 1/2"
* 5	16'-0" x 11'-0"	5	3" x 2 1/16" x 2.33	1'-2"	2'-2"	
* 7A, 22A	13'-0" x 10'-0"	4	3" x 2 1/16" x 2.33	1'-3"	2'-6"	
* 7B	18'-0" x 10'-0"	4	3" x 2 1/16" x 2.33	1'-3"	2'-6"	
* 6B	18'-0" x 13'-0"	7	3" x 2 1/16" x 2.33	1'-0"	1'-10"	1'-9 1/2"
26, 37	13'-0" x 7'-0"	3	3" x 2 1/16" x 2.33	1'-0"	2'-6"	
* 6A, 17A	13'-0" x 13'-0"	7	3" x 2 1/16" x 2.33	1'-0"	1'-10"	1'-9 1/2"
* 33, 34	9'-0" x 5'-0"	2	3" x 2 1/16" x 2.33	1'-3"	2'-6"	
* 56A	16'-0" x 9'-0"	4	3" x 2 1/16" x 2.33	1'-3"	2'-2"	
* 56B	10'-0" x 9'-0"	4	3" x 2 1/16" x 2.33	1'-3"	2'-2"	
* 30A	15'-0" x 12'-0"	4	3" x 2 1/16" x 2.33	1'-0"	2'-6"	2'-1 1/2"
* 30B	13'-0" x 12'-0"	4	3" x 2 1/16" x 2.33	1'-0"	2'-6"	2'-1 1/2"
* 41	13'-0" x 9'-0"	4	3" x 2 1/16" x 2.33	1'-3"	2'-2"	
* 42	13'-0" x 4'-0"	2	3" x 2 1/16" x 2.33	0'-11"	2'-2"	
* 19	23'-0" x 7'-0"	3	3" x 2 1/16" x 2.33	1'-0"	2'-6"	
* 38	24'-0" x 7'-0"	3	3" x 2 1/16" x 2.33	1'-0"	2'-6"	
* 32A	17'-0" x 10'-0"	4	3" x 2 1/16" x 2.33	1'-3"	2'-6"	
* 3C	16'-0" x 11'-2"	5	3" x 2 1/16" x 2.33	1'-3"	2'-2"	

\* Overhead Sign

DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO  
DIVISION OF HIGHWAYS

CLASS III SIGNS  
SHEET ALUMINUM  
PANELS

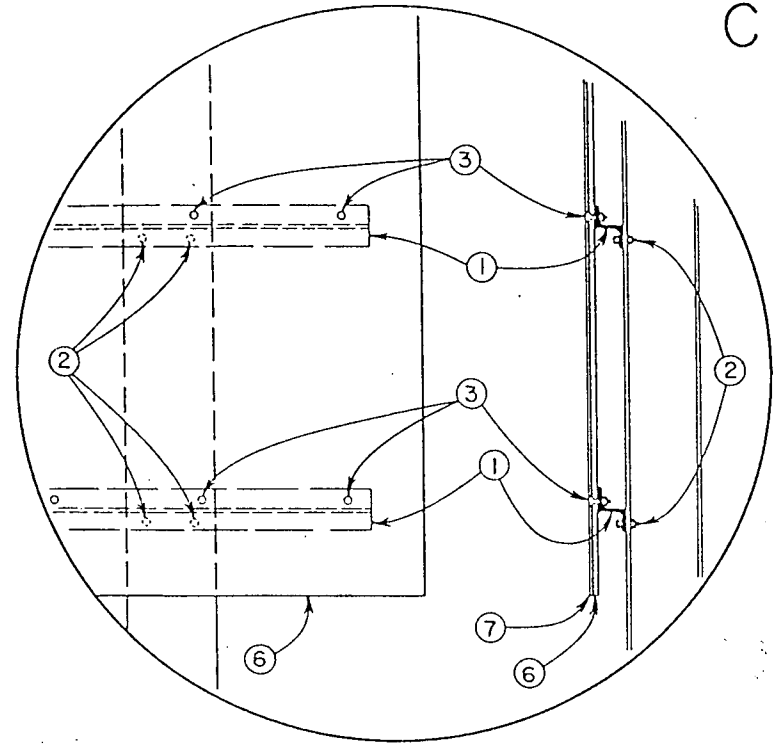


# CLASS III SIGNS - SHEET 2

AS CONSTRUCTED		
NO REVISIONS	(8-17-87) REVISED	VOID

FEDERAL ROAD REGION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	105	105

REVISIONS	

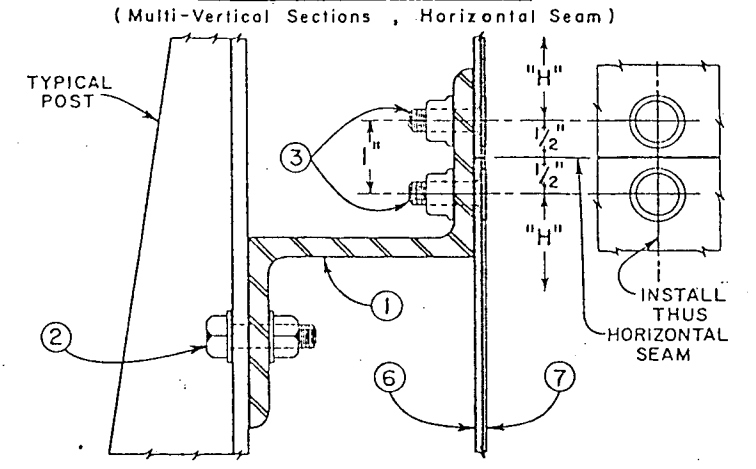


TYPICAL ELEVATION DETAIL

### FABRICATION NOTES

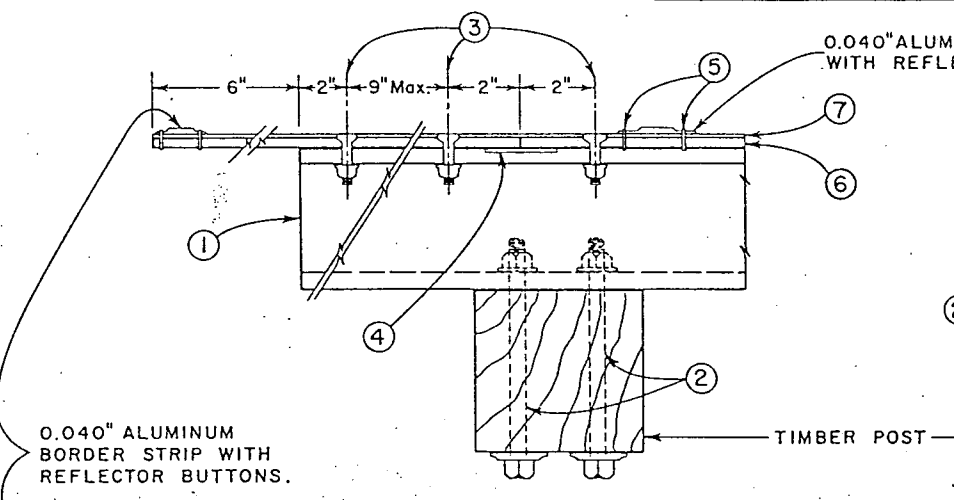
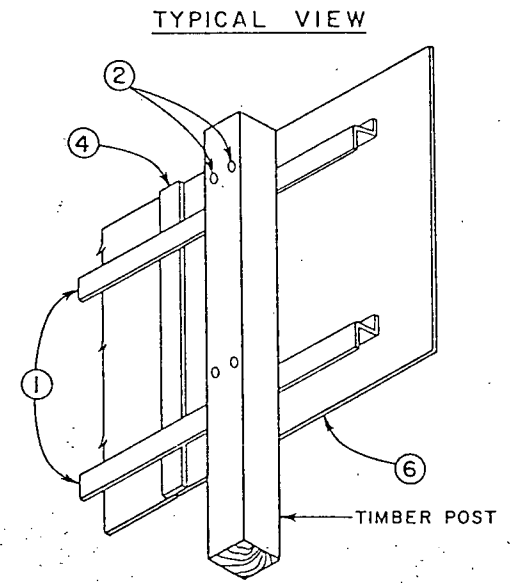
- ① BACKING ZEE. See "SPACING TABLE". Aluminum Alloy 6061-T6. Each zee to be provided with a  $\frac{3}{16}$ " x 2" horizontal slot for each post mounting bolt. The length of each zee to be 1" less than the sign panel width.
- ②  $\frac{3}{8}$ " HEX-HEAD BOLT. With nut and washers; 2 per backing zee 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



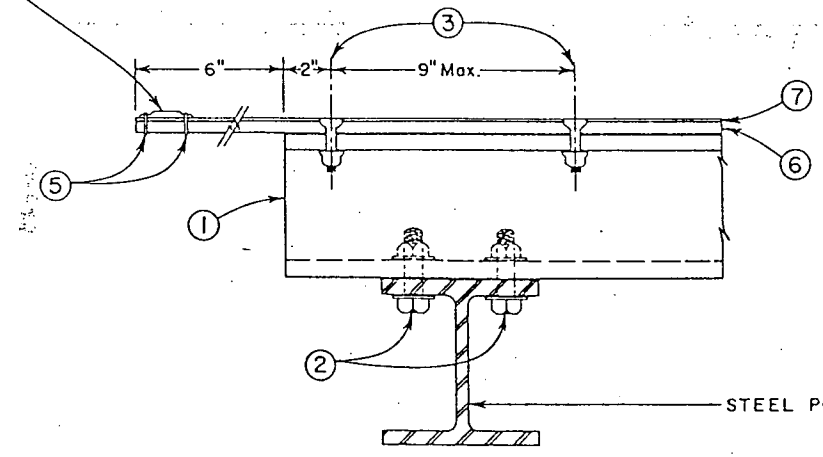
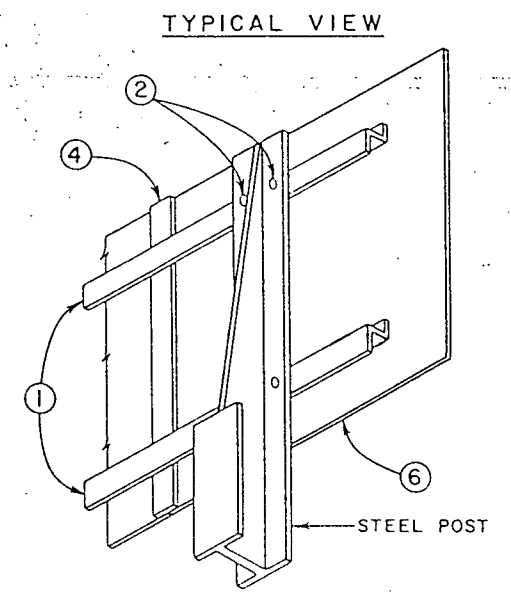
### TYPICAL TIMBER POST INSTALLATION

#### PANEL FABRICATION AND MOUNTING DETAILS

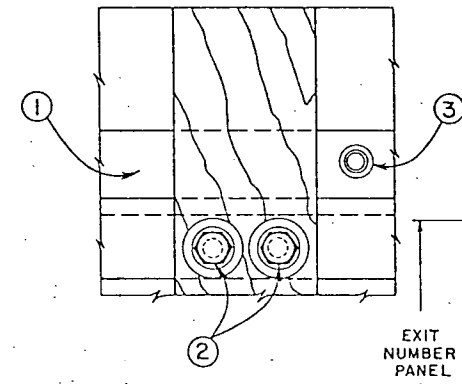
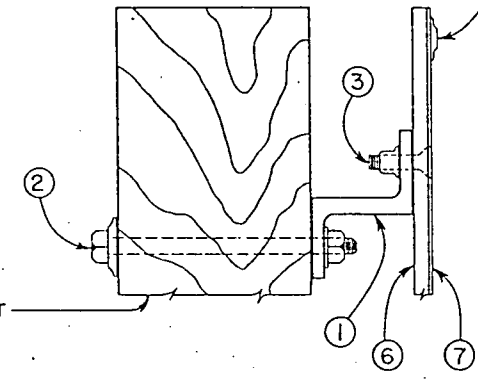


### TYPICAL STEEL POST INSTALLATION

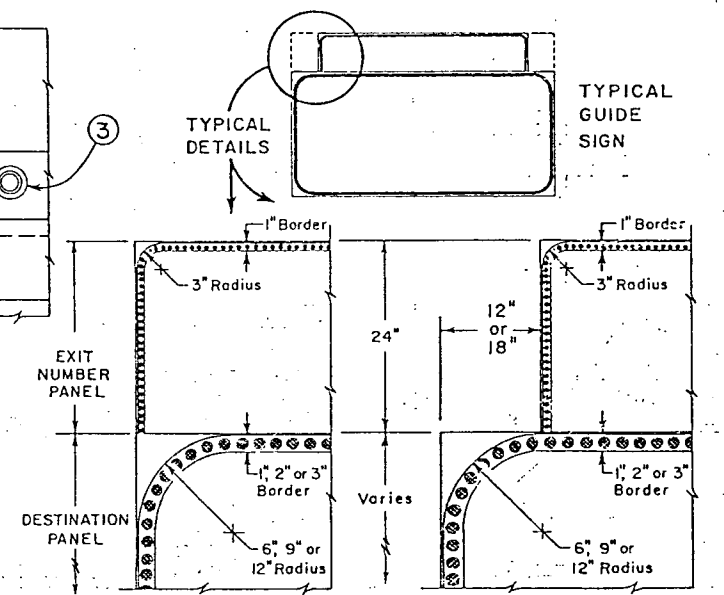
#### PANEL FABRICATION AND MOUNTING DETAILS



### 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

CLASS III SIGNS  
SHEET ALUMINUM  
PANELS

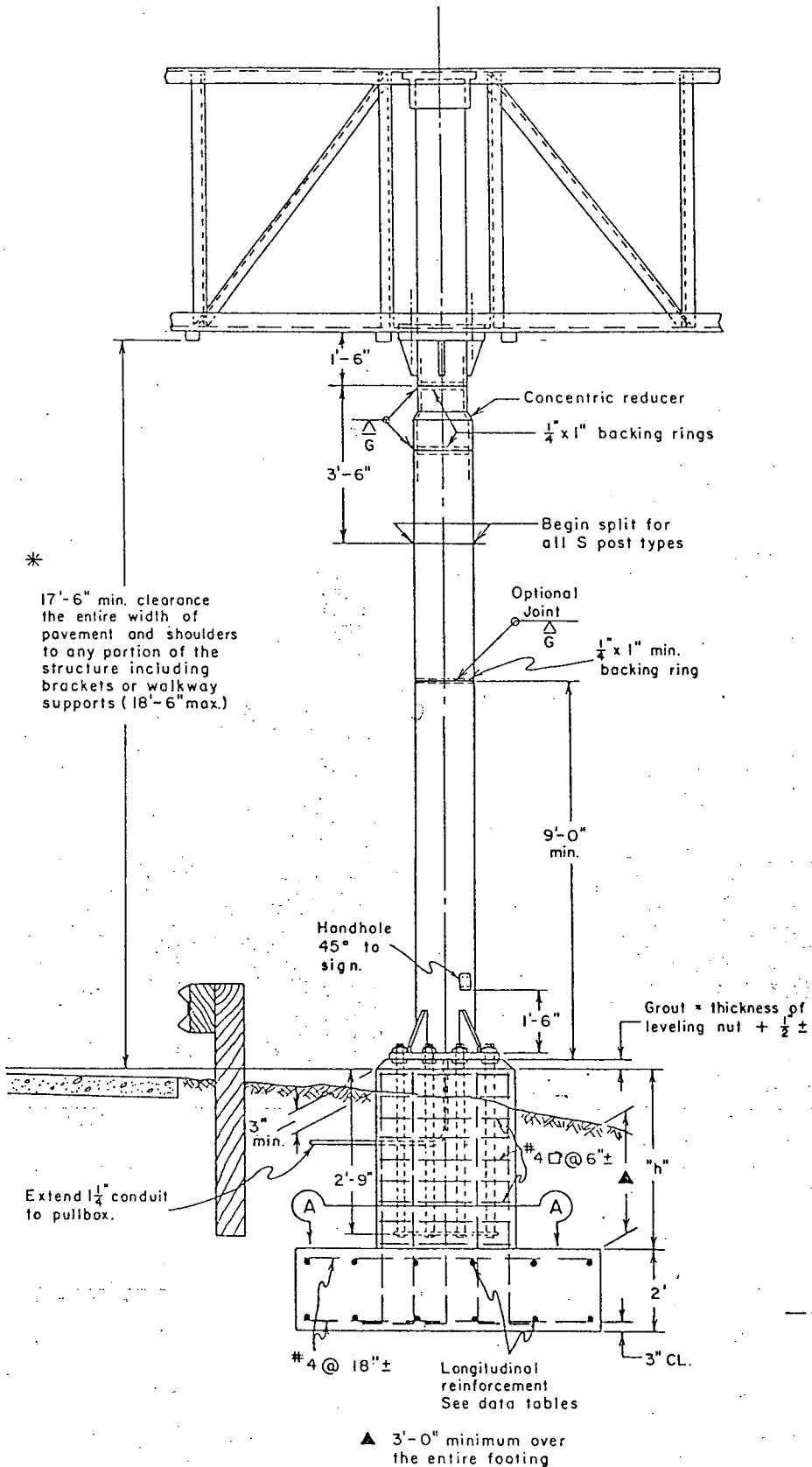
# OVERHEAD SIGNS—SHEET 1

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET No.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	106	

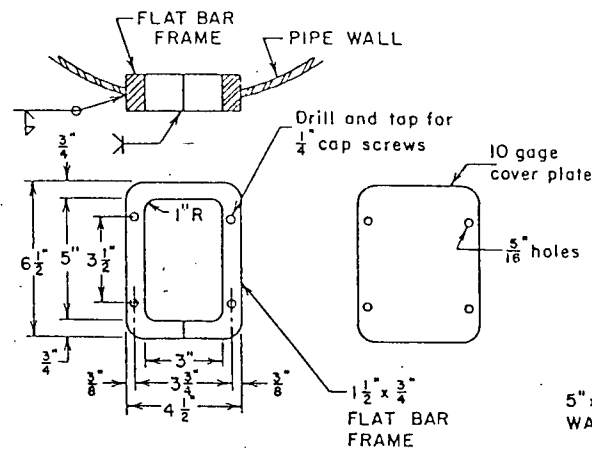
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID
8-17-87		

REVISIONS		

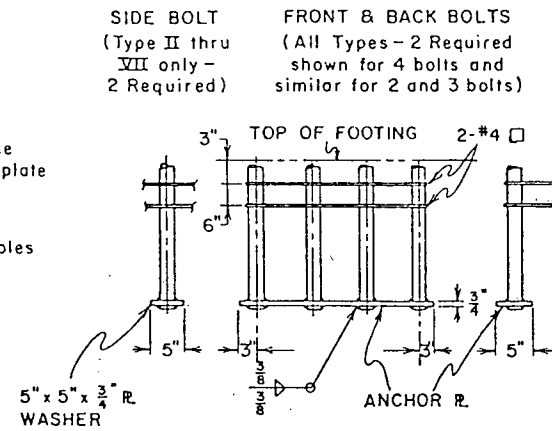
## ELEVATION



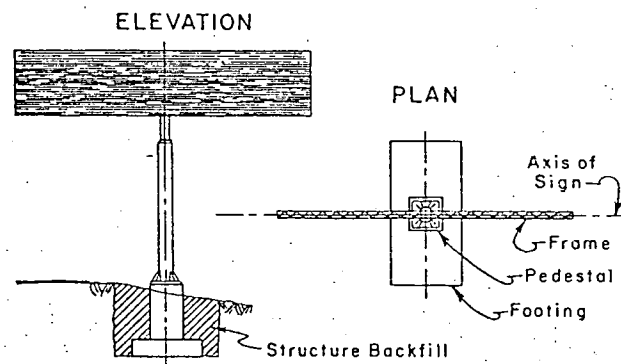
## HANDHOLE DETAILS



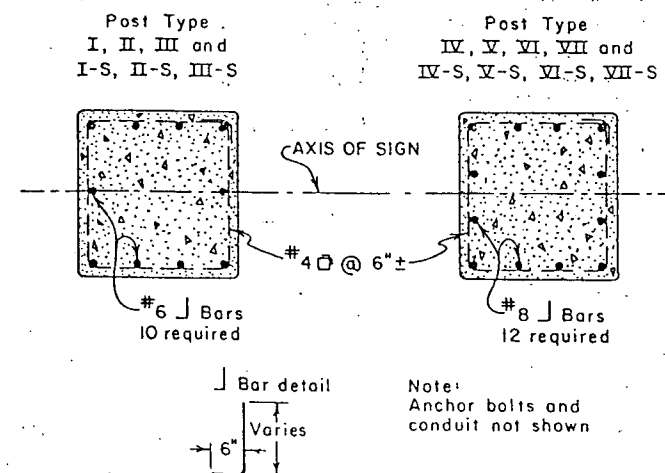
## ANCHORAGE DETAILS



## TYPICAL VIEWS



## SECTION A-A



## GENERAL NOTES

- All work shall be done in accordance with Standard Specifications applicable to the project and "Standard Specifications For Structural Supports For Highway Signs, Luminaires And Traffic Signals", A.A.S.H.T.O. current issue.
- Wind loading 35 P.S.F. normal to panel area.
- UNIT STRESSES:
  - Structural steel:  $F_s = 18,000$  P.S.I.
  - Reinforced concrete:  $F_c = 20,000$  P.S.I.
  - Footing soil pressure:  $1\frac{1}{2}$  TONS / SQ. FT.
  - Allowable unit stresses due to wind load or wind load in combination with other forces are increased  $33\frac{1}{3}\%$ .
- For reinforcement, embedment is clear to outside of bar and is 2" to main reinforcement, except as shown.
- Base plates, pedestals, and footings, longer sides shall be normal to the axis of sign.
- Backfill shall be in place prior to erection of post.
- On single post sign structures, the post shall be raked out of plumb, with the use of the leveling nuts to make the bottom of the sign frame level.
- Ground one post of each structure.
- Tapered tube of equivalent size and thickness may be substituted for pipe post
- For SIGN BRIDGES only, a constant diameter pipe post of the base section size may be used in lieu of the two diameter sections shown.

## TABULATION OF POSTS AND PEDESTALS

SIGN NO.	STRUCTURE TYPE	POST TYPE	PEDESTAL HEIGHT "h"	
			ONE POST	TWO POSTS LI. RI.
1	SIGN BRIDGE	III-S		▲ 5'-8" 4'-0"
5	CANTILEVER	VII	6'-0"	
6	SIGN BRIDGE	III-S		8'-6" 6'-0"
7	SIGN BRIDGE	III-S		5'-6" 5'-0"
17	SIGN BRIDGE	III-S		7'-0" 6'-6"
19	BUTTERFLY	II-S	8'-0"	
22	CANTILEVER	VII	5'-0"	
30	SIGN BRIDGE	III-S		6'-6" 5'-6"
32	SIGN BRIDGE	II-S		6'-6" 5'-6"
38	BUTTERFLY	II-S	7'-0"	
41	CANTILEVER	VII	4'-6"	
56	SIGN BRIDGE	I-S II-S		6'-6" 3'-6"

- ▲ Post Length To Be Reduced 2'-8" (The Normal Concrete Median Barrier Height To Which The Pedestal is To Be Built).
- Post Length To Be Reduced 2'-0".
- Post Length To Be Reduced 1'-6".

\* Normal Barrier Height shown may be increased to raise the median barrier above the line of sight between the roadways for "glarewall".

DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO  
DIVISION OF HIGHWAYS  
**OVERHEAD SIGNS  
POSTS &  
FOOTINGS (SPREAD)**

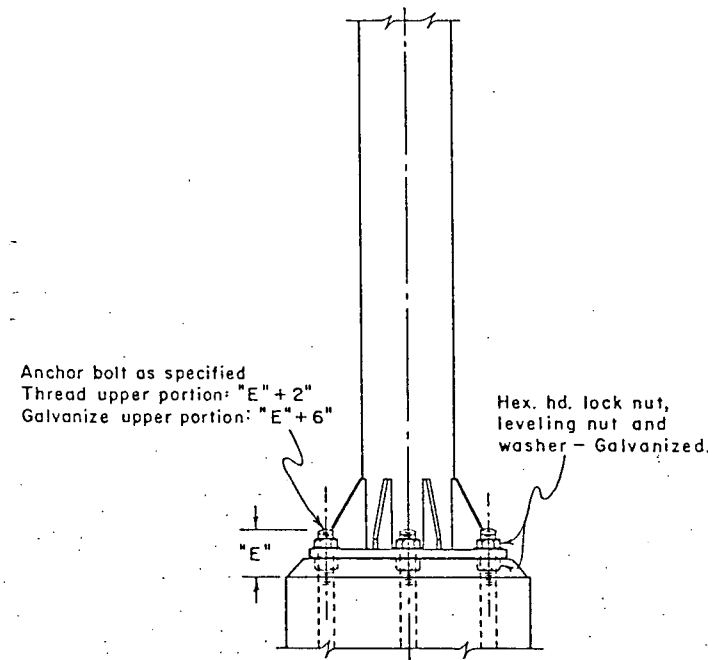
# OVERHEAD SIGNS - SHEET 2

FEDERAL ROAD REGION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	107	

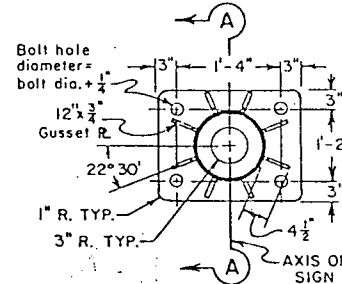
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

REVISIONS		

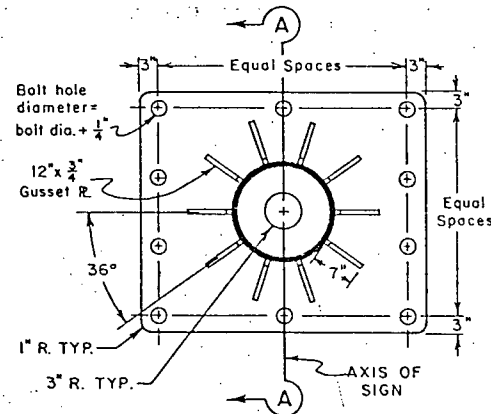
## POSTS TYPES I - VII & BASE PLATES



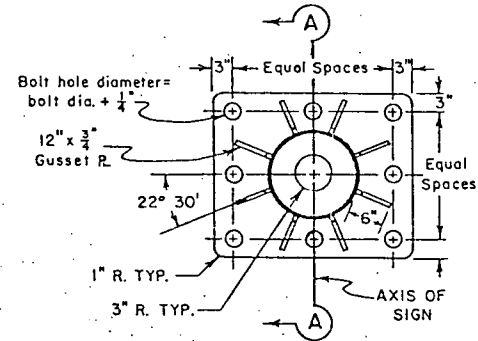
**4 ANCHOR TYPE**



**10 ANCHOR TYPE**

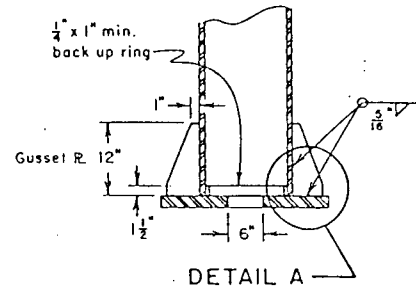


**8 ANCHOR TYPE**



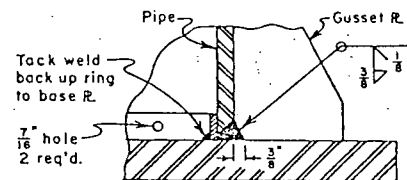
## SECTION A-A

COMMON TO ALL TYPES

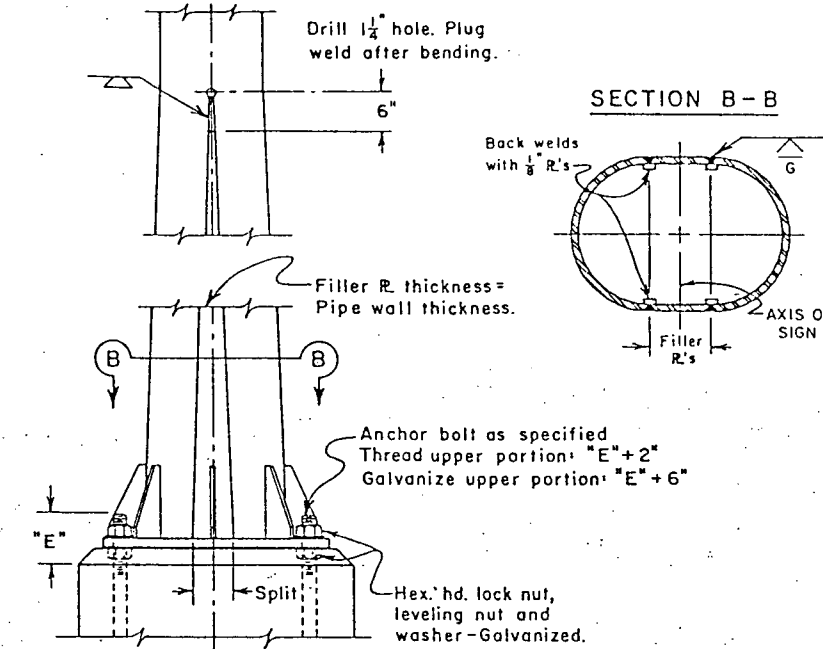


DETAIL A

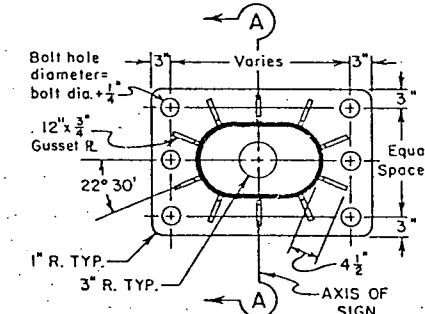
## DETAIL A



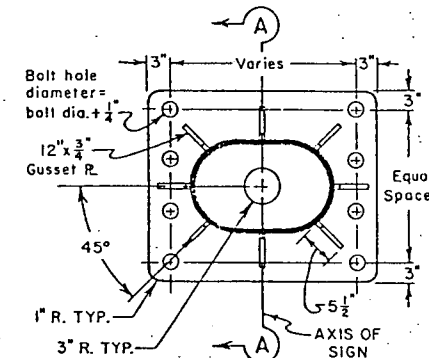
## POSTS TYPES I-S - VII-S & BASE PLATES



**6 ANCHOR TYPE**



**8 ANCHOR TYPE**



TYPES I THRU VII DATA TABLE

POST TYPE	PIPE SIZES		REDUCER LENGTH	"E"	BASE PLATE SIZE	ANCHOR BOLTS	PEDESTAL SIZE	FOOTING SIZE	LONGITUDINAL FOOTING REINFORCEMENT	
	BASE SECTION	UPPER SECTION							TOP	BOTTOM
	I	10" Std. @ 40.48							8" Std. @ 28.55	7"
II	12" Std. @ 49.56	10" Std. @ 34.24	8"	7 1/2"	2'-4" x 2'-1" x 1 1/2"	8 - 1 3/4" φ	2'-11" x 2'-8"	6'-0" x 10'-0"	6 - #4 bars	6 - #4 bars
III	14" O.D. @ 72.09	12" Std. @ 43.77	1'-1"	8 1/2"	2'-7" x 2'-3" x 1 3/4"	8 - 2" φ	3'-2" x 2'-10"	7'-0" x 12'-0"	6 - #5 bars	6 - #5 bars
IV	16" O.D. @ 82.77	14" O.D. @ 54.57	1'-2"	8 1/2"	3'-1" x 2'-9" x 2"	10 - 2" φ	3'-8" x 3'-4"	7'-0" x 13'-0"	6 - #5 bars	6 - #5 bars
V	18" O.D. @ 93.45	16" O.D. @ 62.58	1'-3"	8 1/2"	3'-3" x 3'-0" x 1 3/4"	10 - 2" φ	3'-10" x 3'-7"	8'-0" x 14'-0"	7 - #5 bars	7 - #6 bars
VI	20" O.D. @ 104.13	18" O.D. @ 70.59	1'-8"	8 1/2"	3'-3" x 3'-0" x 2"	10 - 2" φ	3'-10" x 3'-7"	9'-0" x 15'-0"	6 - #6 bars	6 - #7 bars
VII	24" O.D. @ 125.49	20" O.D. @ 78.60	1'-8"	10"	3'-7" x 3'-3" x 2 1/2"	10 - 2 1/2" φ	4'-3" x 3'-11"	10'-0" x 17'-0"	7 - #6 bars	7 - #8 bars

TYPES I-S THRU VII-S DATA TABLE

POST TYPE	PIPE SIZES		REDUCER LENGTH	"E"	SPLIT	BASE PLATE SIZE	ANCHOR BOLTS	PEDESTAL SIZE	FOOTING SIZE	LONGITUDINAL FOOTING REINFORCEMENT	
	BASE SECTION	UPPER SECTION								TOP	BOTTOM
	I-S	10" Std. @ 40.48								8" Std. @ 28.55	7"
II-S	12" Std. @ 49.56	10" Std. @ 34.24	8"	7 1/2"	5"	2'-5" x 1'-11" x 1 1/2"	6 - 1 3/4" φ	3'-0" x 2'-6"	6'-0" x 11'-0"	6 - #4 bars	6 - #7 bars
III-S	14" O.D. @ 72.09	12" Std. @ 43.77	1'-1"	8 1/2"	5"	2'-9" x 2'-0" x 2"	6 - 2" φ	3'-4" x 2'-7"	7'-0" x 13'-0"	7 - #4 bars	7 - #8 bars
IV-S	16" O.D. @ 82.77	14" O.D. @ 54.57	1'-2"	8 1/2"	6"	2'-11" x 2'-7" x 2"	8 - 2" φ	3'-6" x 3'-2"	8'-0" x 14'-0"	8 - #5 bars	8 - #9 bars
V-S	18" O.D. @ 93.45	16" O.D. @ 62.58	1'-3"	8 1/2"	7"	3'-1" x 2'-9" x 2"	8 - 2" φ	3'-8" x 3'-4"	8'-0" x 16'-0"	8 - #5 bars	8 - #9 bars
VI-S	20" O.D. @ 104.13	18" O.D. @ 70.59	1'-8"	8 1/2"	8"	3'-5" x 2'-9" x 2"	8 - 2" φ	4'-0" x 3'-4"	9'-0" x 17'-0"	9 - #5 bars	9 - #10 bars
VII-S	24" O.D. @ 125.49	20" O.D. @ 78.60	1'-8"	9 1/2"	8"	3'-9" x 3'-3" x 2"	8 - 2 1/4" φ	4'-5" x 3'-11"	10'-0" x 18'-0"	10 - #6 bars	10 - #11 bars

DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO  
DIVISION OF HIGHWAYS  
  
OVERHEAD SIGNS  
POSTS &  
FOOTINGS (SPREAD)

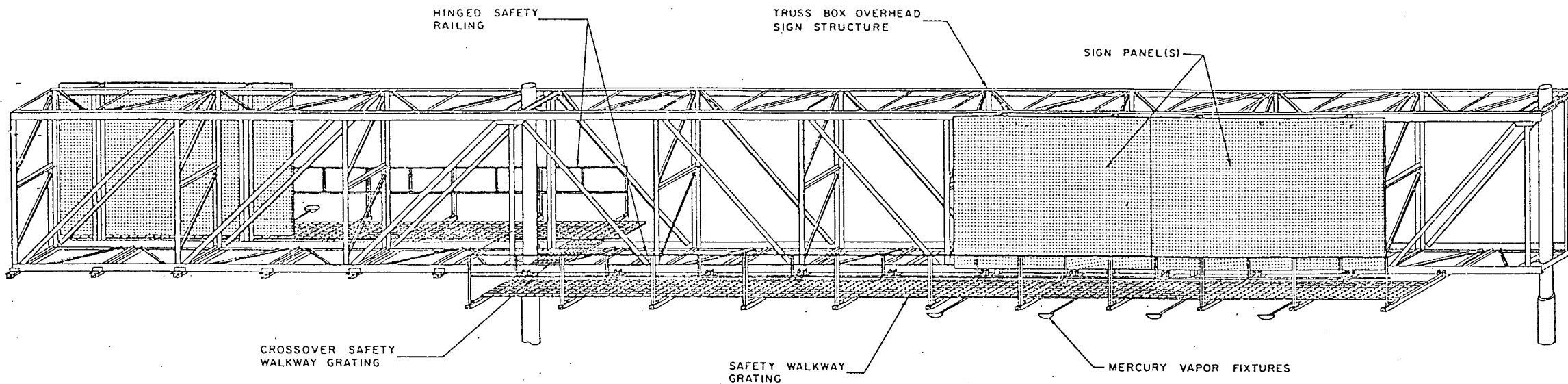
# OVERHEAD SIGNS - SHEET 3

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	108	

REVISIONS	

AS CONSTRUCTED

NO REVISION 8-17-87 REVISED  VOID



TYPICAL VIEW OF ASSEMBLED MEMBERS  
TYPICAL CANTILEVER SIGN STRUCTURE SHOWN

## GENERAL NOTES

- All work shall be done in accordance with:
  - the Standard Specifications applicable to the project.
  - the "Manual on Uniform Traffic Control Devices for Streets and Highways" published by the Federal Highway Administration, and the latest revision of the Colorado Supplement thereto.
  - AASHTO specifications for the design and construction of Structural Supports for Highway Signs.
- Safety walkway grating shall be welded-type with 1/4" x 1/8" bearing bars at 1 3/16" centers and 3/16" dia. (or equal) crossbars at 4" centers.
- Brackets to be evenly spaced with a maximum center to center spacing of 5'-6".
- Bolts, nuts, washers, etc. shall be galvanized or cadmium plated.
- Walkway grating, brackets and railing shall be painted in accordance with Section 509, wiring shall be in accordance with Section 613.
- Crossover safety walkway to be used when sign bridges have sign panels facing two directions.

## TABULATION OF OVERHEAD SIGNS

SIGN NUMBER	STATION	SIGN PANEL SIZE	BACK GROUND COLOR	NUMBER OF POSTS	TYPE OF POST	STRUCTURE TYPE	FRAME SIZE	STRUCT. NUMBER	PANEL SIZE CLASS III SQ. FT.	PANEL SIZE CLASS I SQ. FT.	TYPE OF FOOTING
1		15' x 13'	GREEN	2		SIGN BRIDGE			195		
2		13' x 13'	GREEN						169		
3		16' x 11'-2"	GREEN						178.67		
4		13'-0" x 10'-0"	GREEN			Bridge Bracket					
5		18'-0" x 10'-0"	GREEN			Sign Bridge					
6		16'-0" x 11'-2"	GREEN			Cantilever Bracket			178.67		
7		13'-0" x 13'-0"	GREEN	2		SIGN BRIDGE			169		
8		18'-0" x 13'-0"	GREEN						234	41.22	
12		13'-0" x 10'-0"	GREEN	1		CANTILEVER			130	29.56	
13		13'-0" x 13'-0"	GREEN	2		SIGN BRIDGE			169		
14		15'-0" x 13'-0"	GREEN						195	34.22	
15		25'-0" x 8'-0"	GREEN	2		SIGN BRIDGE			200	29.40	
22		16'-0" x 9'-0"	GREEN	2		SIGN BRIDGE			144		
23		10'-0" x 9'-0"	GREEN						90		
24		15'-0" x 12'-0"	GREEN	2		SIGN BRIDGE					
25		16'-0" x 12'-0"	GREEN								
30		23'-0" x 7'-0"	GREEN	1		BUTTERFLY			161		
31	425+00 SB	24'-0" x 7'-0"	GREEN	1		BUTTERFLY					

## LIGHTING NOTES

- Fixtures shall be watertight, dustproof and designed for ease of lamp replacement.
- Lamp shall be of the Mercury Vapor type. (400 Watts) Lamps and ballasts shall be designed to operate over an ambient temperature range of -25° F to 120° F
- Ballasts shall operate from a 120 volt, 60 hz., single phase source with a regulated output of ± 12%. Ballasts shall be housed in a watertight dustproof enclosure.
- The type, number and spacing of fixtures shall be per manufactures specifications to maintain a maximum initial illumination of the sign face of 30 foot candles to 60 foot candles with a maximum uniformity ratio (maximum illumination/minimum illumination) of 5:1.
- Fixture and mounting details will be subject to approval by the Engineer.

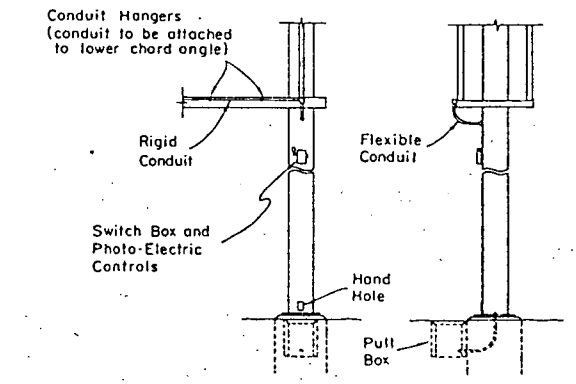
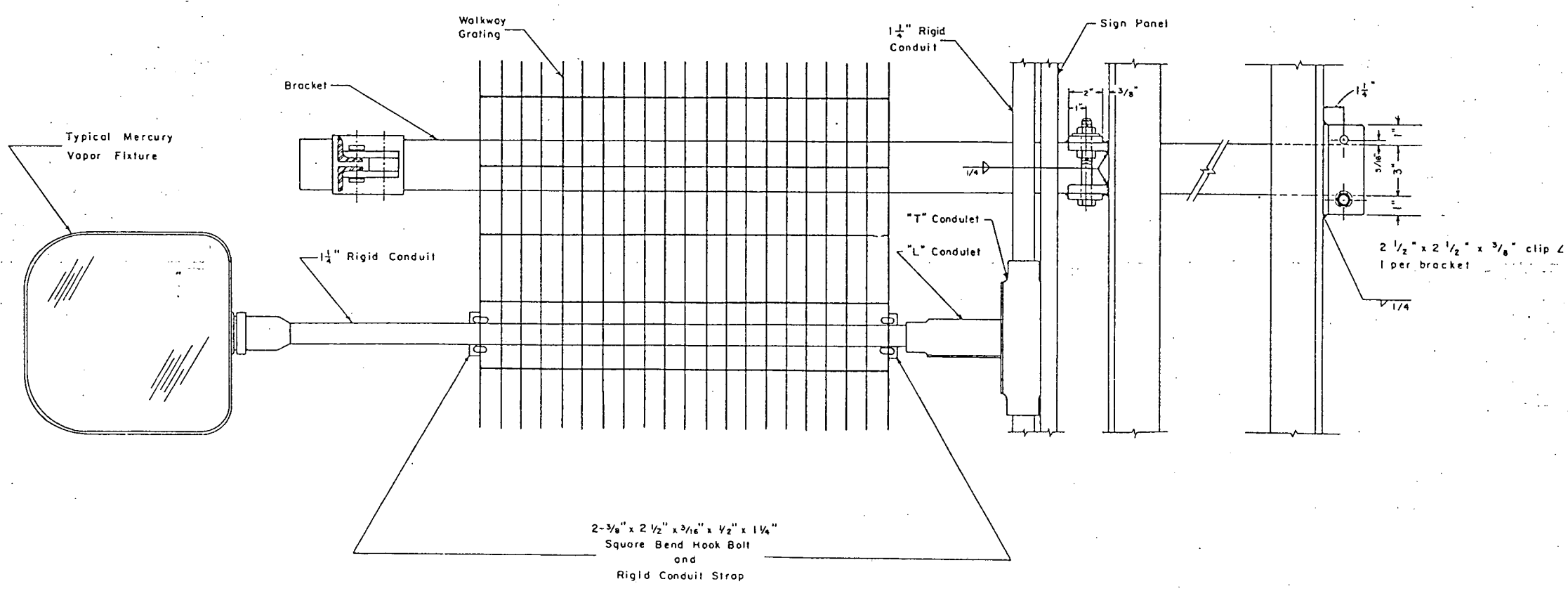
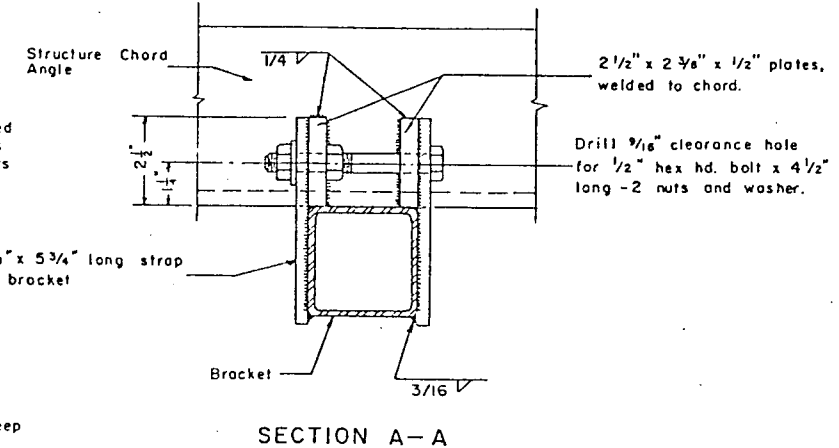
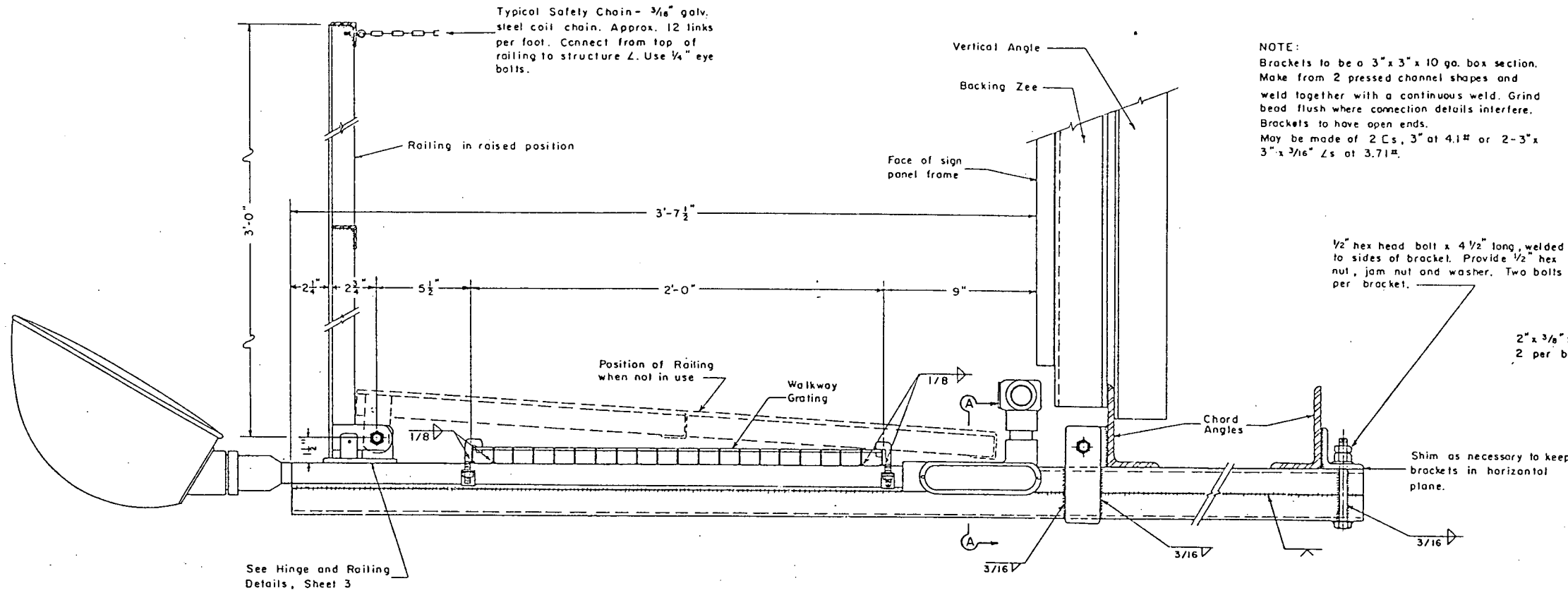
DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO  
DIVISION OF HIGHWAYS  
LIGHT FIXTURE  
AND  
SAFETY WALKWAY  
DETAILS

# OVERHEAD SIGNS - SHEET 4

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	109	

REVISIONS	

AS CONSTRUCTED		
NO REVISIONS	8-17-87	REVISED
		VOID



The Contractor is to provide all necessary wiring within the structure down to the hand hole. The Utility Company is to provide the wiring from the power source to the hand hole and is to make connection with the contractor's wiring.

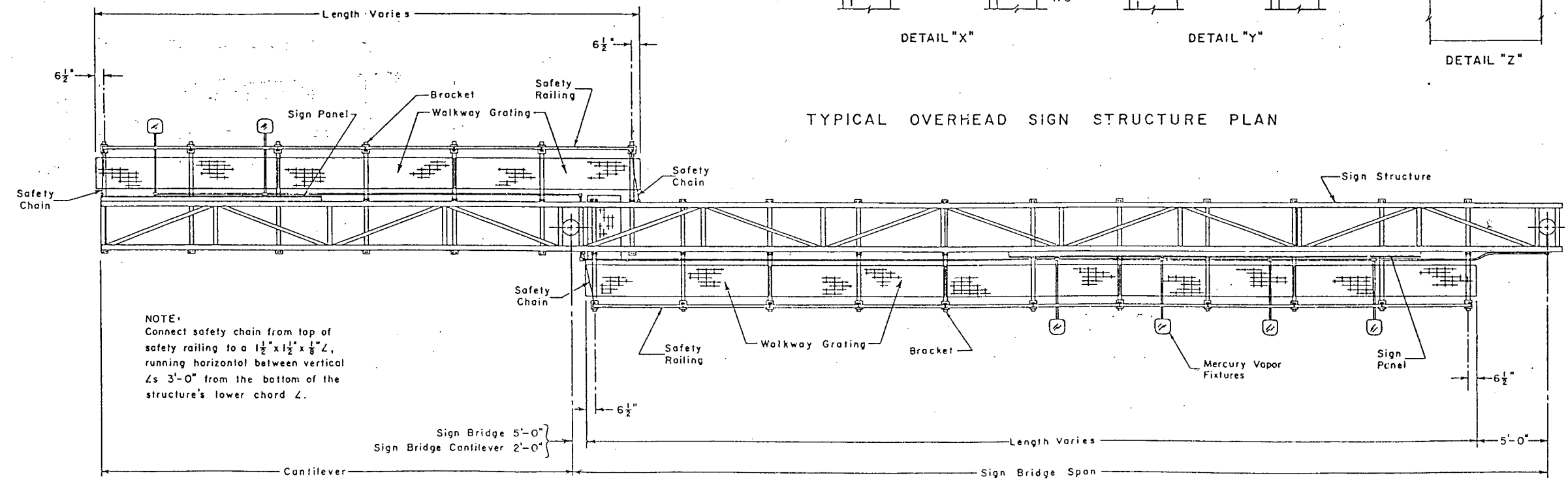
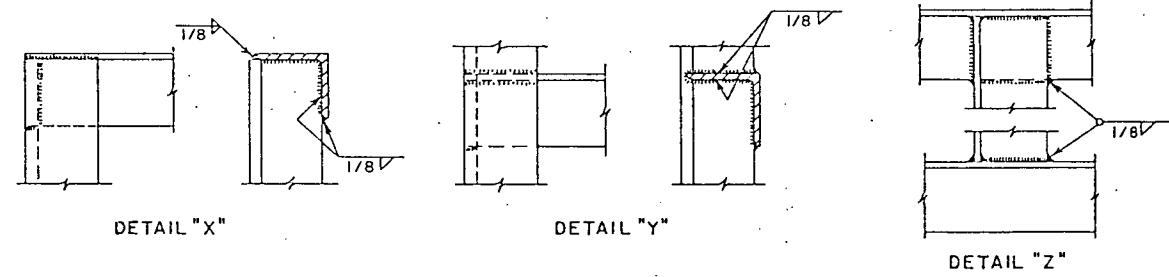
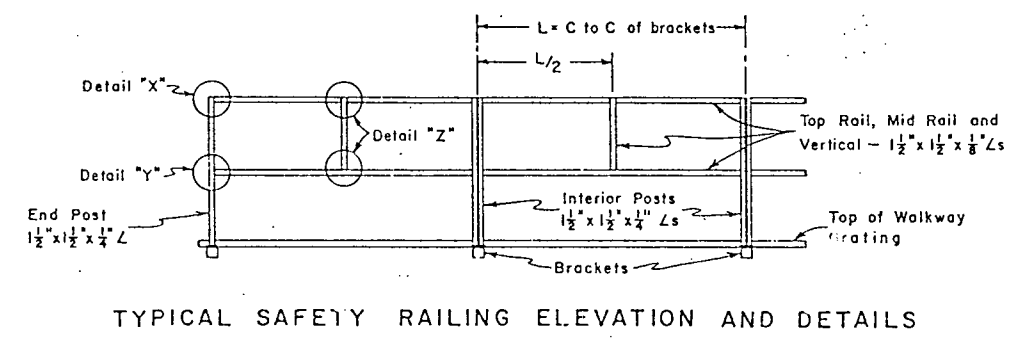
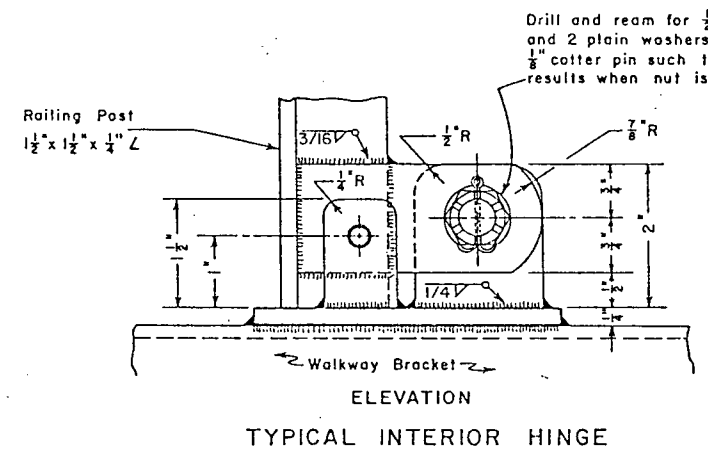
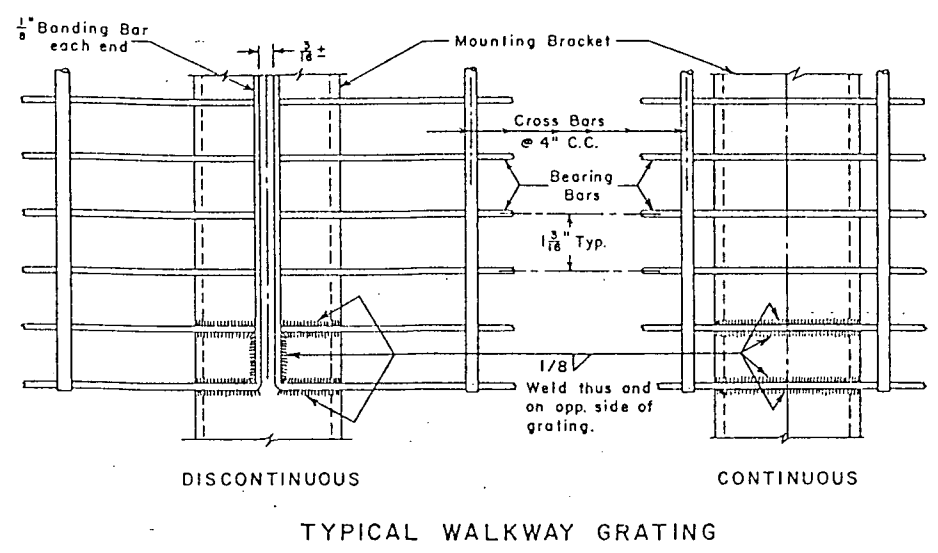
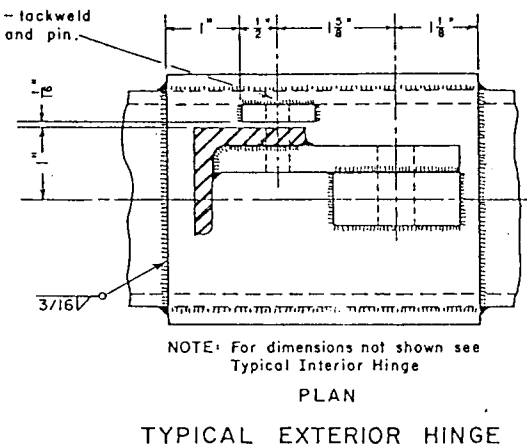
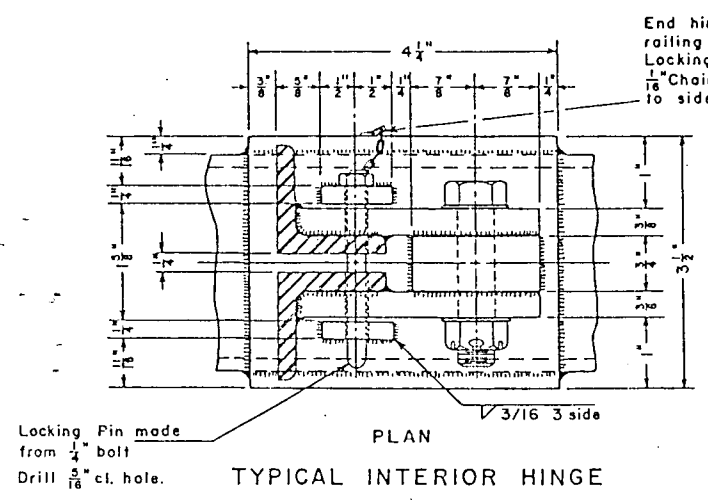
DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO  
DIVISION OF HIGHWAYS  
LIGHT FIXTURE  
AND  
SAFETY WALKWAY  
DETAILS

# OVERHEAD SIGNS - SHEET 5

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 04-0025-19	110	

REVISIONS	

AS CONSTRUCTED  
 NO REVISION 8-17-87 REVISED VOID



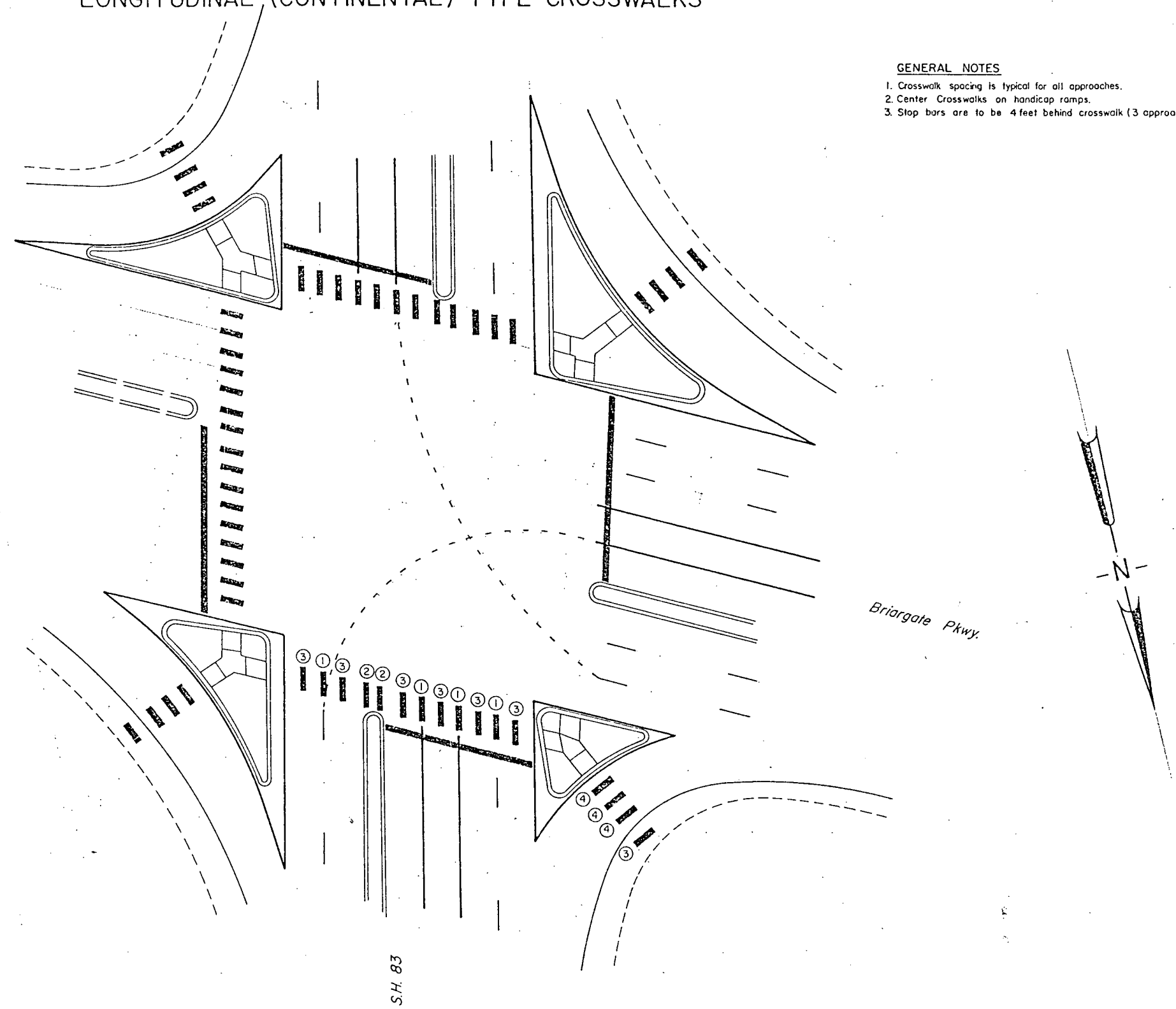
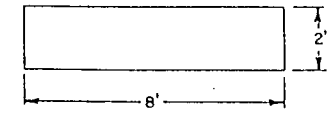
DEPARTMENT OF HIGHWAYS  
 STATE OF COLORADO  
 DIVISION OF HIGHWAYS  
 LIGHT FIXTURE  
 AND  
 SAFETY WALKWAY  
 DETAILS

### TYPICAL PAVEMENT MARKINGS LONGITUDINAL (CONTINENTAL) TYPE CROSSWALKS

**GENERAL NOTES**

1. Crosswalk spacing is typical for all approaches.
2. Center Crosswalks on handicap ramps.
3. Stop bars are to be 4 feet behind crosswalk (3 approaches only).

CROSSWALK LINE DETAIL (TYP.)



- LAYOUT KEY**
- ① Center on lane line.
  - ② Center on extended flow line.
  - ③ Center between adjacent lines.
  - ④ Lines and spaces to approximate adjacent pattern.

1" = 20'

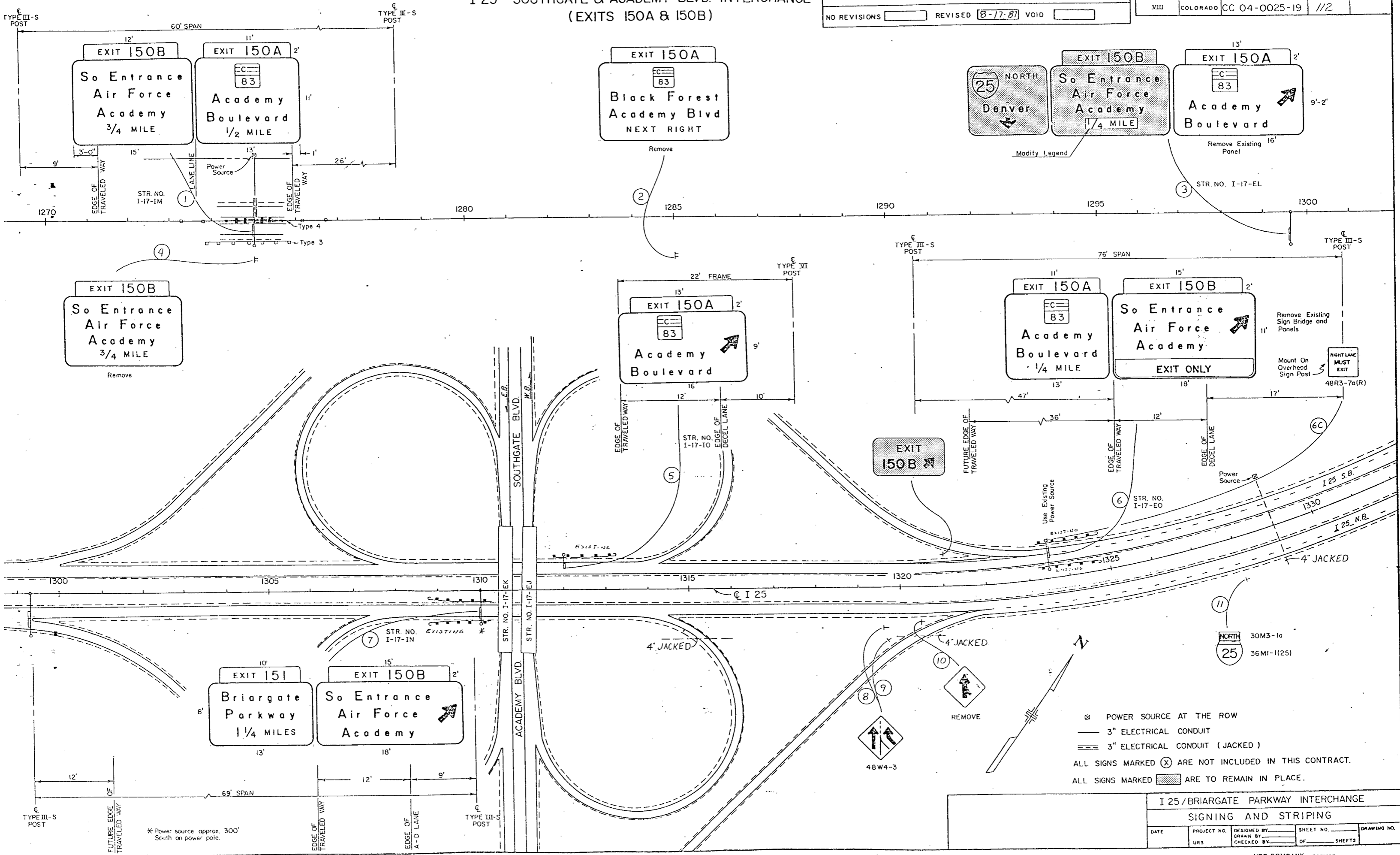
I 25 / BRIARGATE PARKWAY INTERCHANGE				
PAVEMENT MARKING DETAILS				
DATE 10/15/85	PROJECT NO. URS 5060	DESIGNED BY J.W.	SHEET NO. OF SHEETS	DRAWING NO.
		CHECKED BY		

# I 25 SOUTHGATE & ACADEMY BLVD. INTERCHANGE (EXITS 150A & 150B)

AS CONSTRUCTED

NO REVISIONS  REVISED **8-17-87** VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	112	

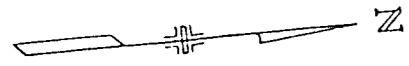


\*Power source approx. 300' South on power pole.

- ⊗ POWER SOURCE AT THE ROW
- 3" ELECTRICAL CONDUIT
- ≡≡≡ 3" ELECTRICAL CONDUIT (JACKED)
- ALL SIGNS MARKED ⊗ ARE NOT INCLUDED IN THIS CONTRACT.
- ALL SIGNS MARKED [shaded box] ARE TO REMAIN IN PLACE.

I 25/BRIARGATE PARKWAY INTERCHANGE				
SIGNING AND STRIPING				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS		OF	SHEETS





AS CONSTRUCTED  
 NO REVISIONS  REVISED  8-17-87 VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-14	113	

TYPE III-S POST 76' SPAN TYPE III-S POST

12' 10' 12' 2'

GAS - FOOD LODGING  
TOURIST INFO CENTER  
SECOND RIGHT

EXIT 150B  
So Entrance Air Force Academy  
NEXT RIGHT

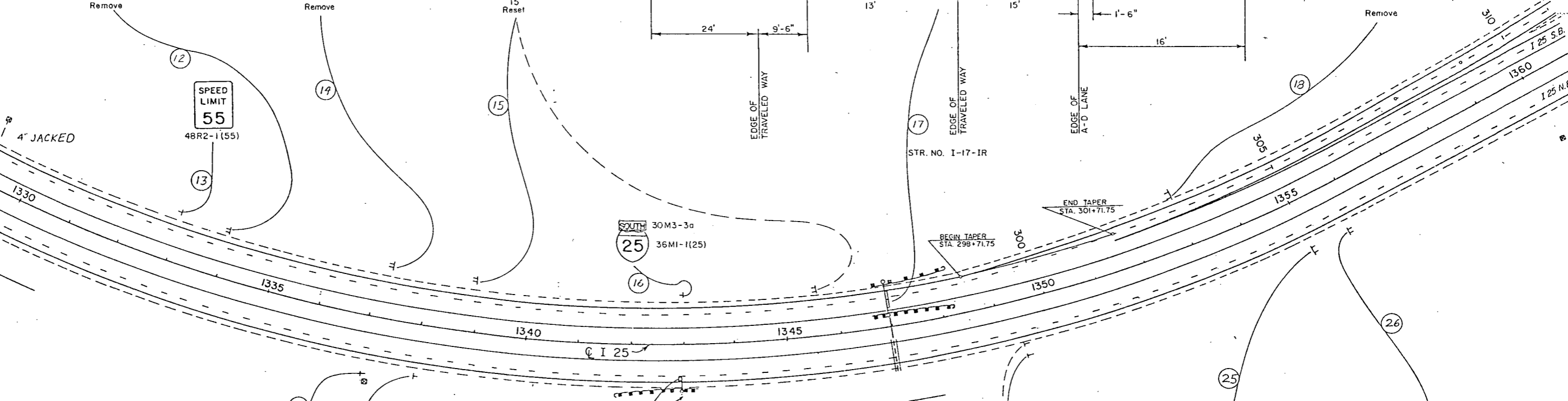
EXIT 150A  
Municipal Airport  
Peterson AFB  
SECOND RIGHT

11' 12' 2' 11' 15' 1'-6" 16'

EXIT 150A  
Academy Boulevard  
3/4 MILE

EXIT 150B  
So Entrance Air Force Academy  
EXIT ONLY

EXIT 150A  
Black Forest Academy Blvd  
SECOND RIGHT



19' 23' 22'-9" 23' FRAME 22'-3"

STR. NO. I-17-IP

Briargate Pkwy 3/4  
No Entrance AFA 5  
Baptist Rd 7 1/4

22' 23' 29' FRAME 10' 10' 2' 8' 13' 0'-6"

STR. NO. I-17-IQ

EXIT 151  
Briargate Parkway  
EXIT ONLY

24' 6' 4' 10' 2' 13'

VAN POOL INFO 371-1855

Air Force Academy 5  
Denver 59

EXIT 151  
Black Forest  
NEXT RIGHT

SPEED LIMIT 55  
48R2-1(55)

SPEED LIMIT 55  
Remove

- ☒ POWER SOURCE AT THE ROW
- 3" ELECTRICAL CONDUIT
- === 3" ELECTRICAL CONDUIT (JACKED)
- ALL SIGNS MARKED (X) ARE NOT INCLUDED IN THIS CONTRACT.
- ALL SIGNS MARKED [Hatched Box] ARE TO REMAIN IN PLACE.

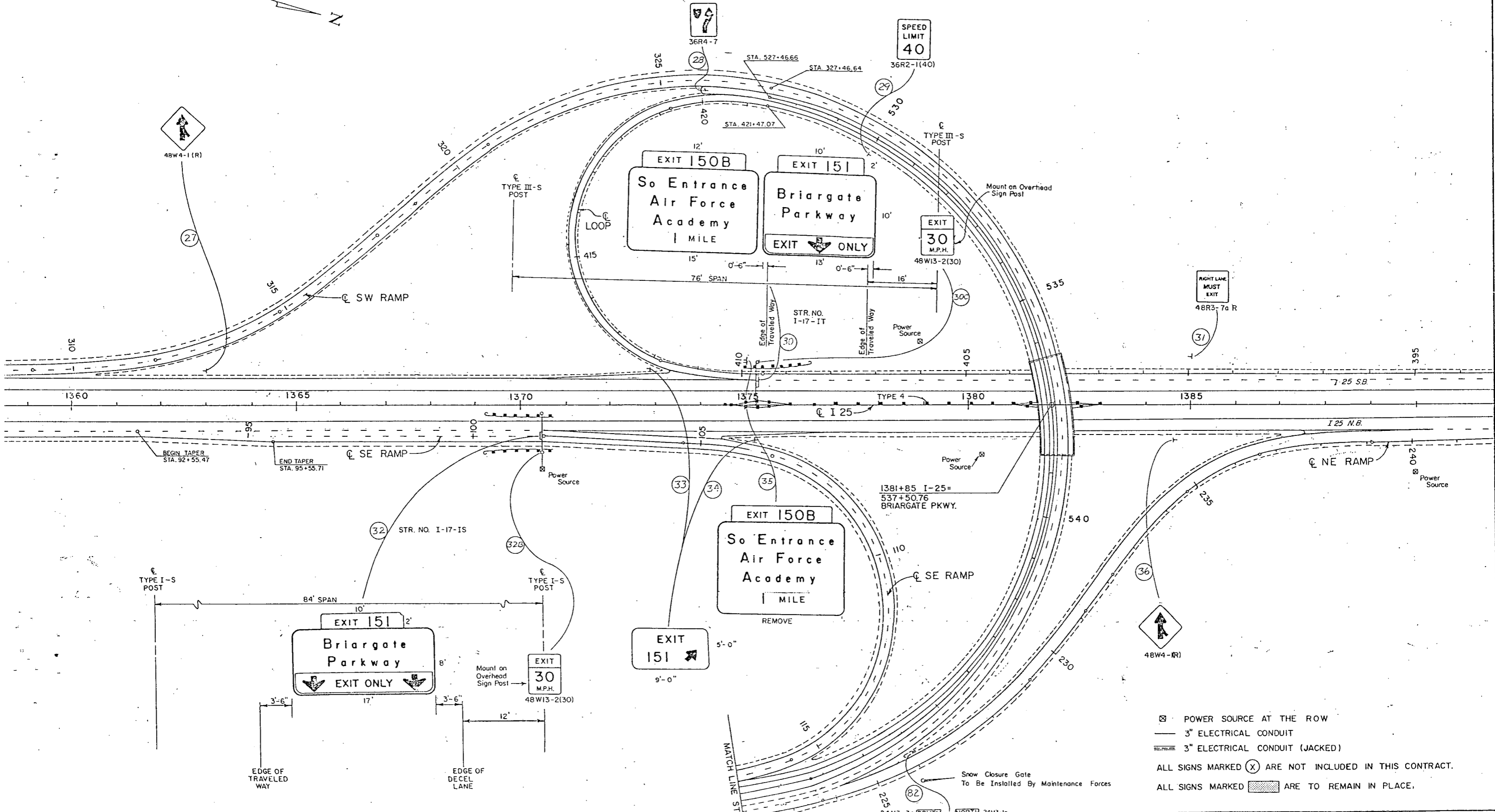
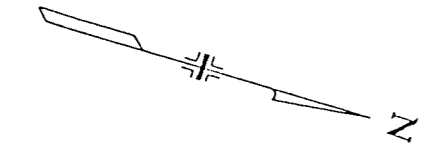
I 25 / BRIARGATE PARKWAY INTERCHANGE				
SIGNING AND STRIPING				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
7/1/85	URS 5060	CHECKED BY	2 OF 5 SHEETS	

# I 25 BRIARGATE PARKWAY INTERCHANGE (EXIT 151)

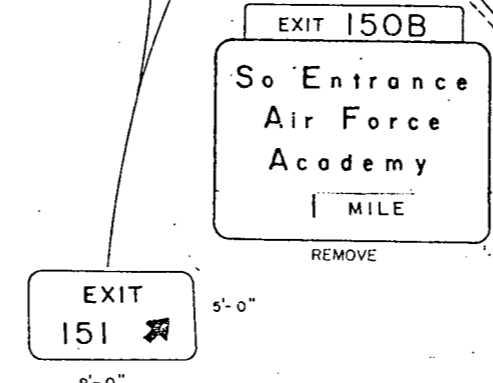
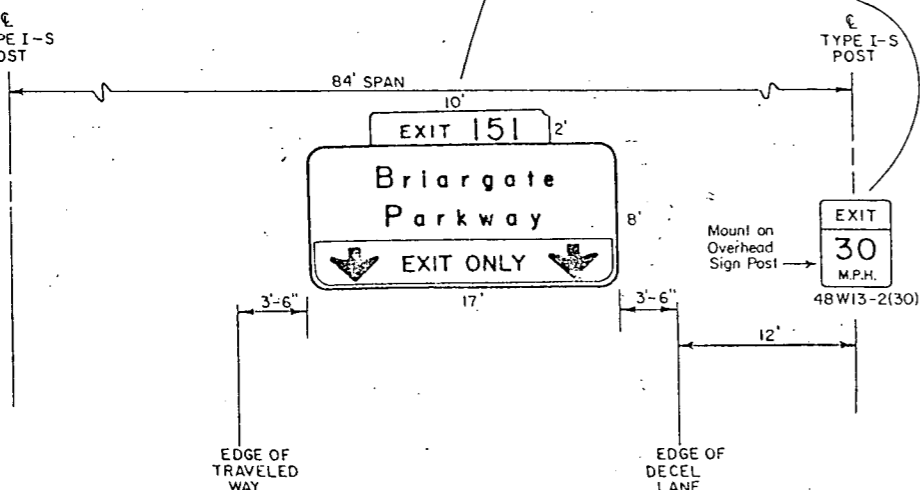
AS CONSTRUCTED

NO REVISIONS  REVISED  8-17-87 VOID

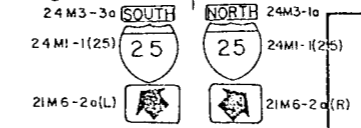
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	114	



BEGIN TAPER STA. 92+55.47  
END TAPER STA. 95+55.71



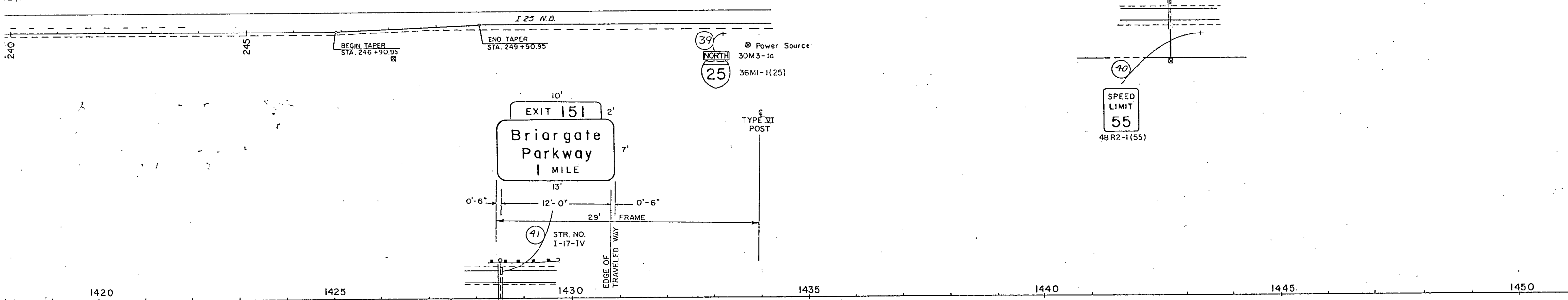
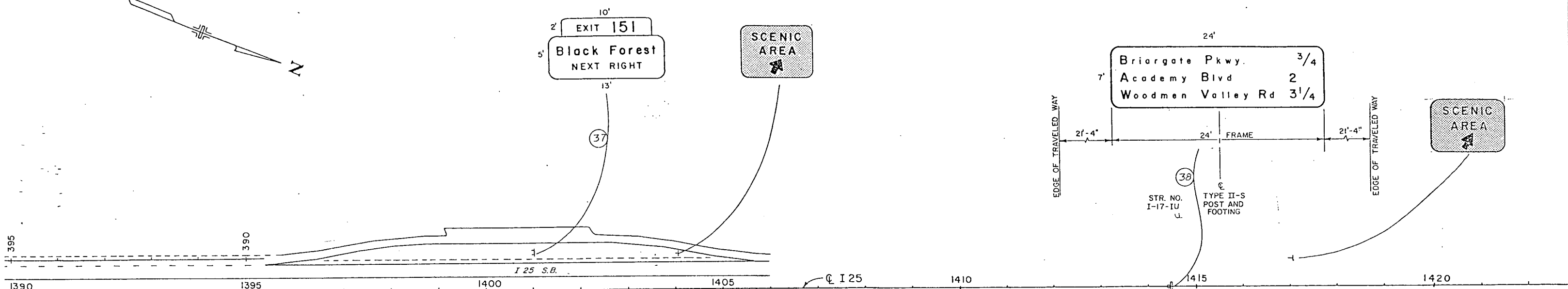
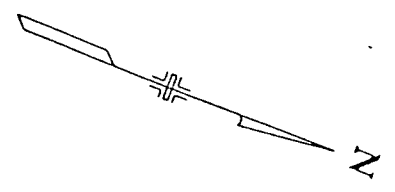
- POWER SOURCE AT THE ROW
- 3" ELECTRICAL CONDUIT
- 3" ELECTRICAL CONDUIT (JACKED)
- ALL SIGNS MARKED (X) ARE NOT INCLUDED IN THIS CONTRACT.
- ALL SIGNS MARKED ARE TO REMAIN IN PLACE.



I 25/BRIARGATE PARKWAY INTERCHANGE				
SIGNING AND STRIPING				
DATE 12/7/84	PROJECT NO. 4059	DESIGNED BY P.M.Y.	SHEET NO.	DRAWING NO.
		DRAWN BY C.E.R.	OF SHEETS	SHEETS

AS CONSTRUCTED  
 NO REVISIONS B-17-87 REVISED   VOID  

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025	115	



No Entrance AFA	5
Castle Rock	30
Denver	60

⊗ POWER SOURCE AT THE ROW  
 — 3" ELECTRICAL CONDUIT  
 ≡≡≡ 3" ELECTRICAL CONDUIT (JACKED)  
 ALL SIGNS MARKED (X) ARE NOT INCLUDED IN THIS CONTRACT.  
 ALL SIGNS MARKED   ARE TO REMAIN IN PLACE.

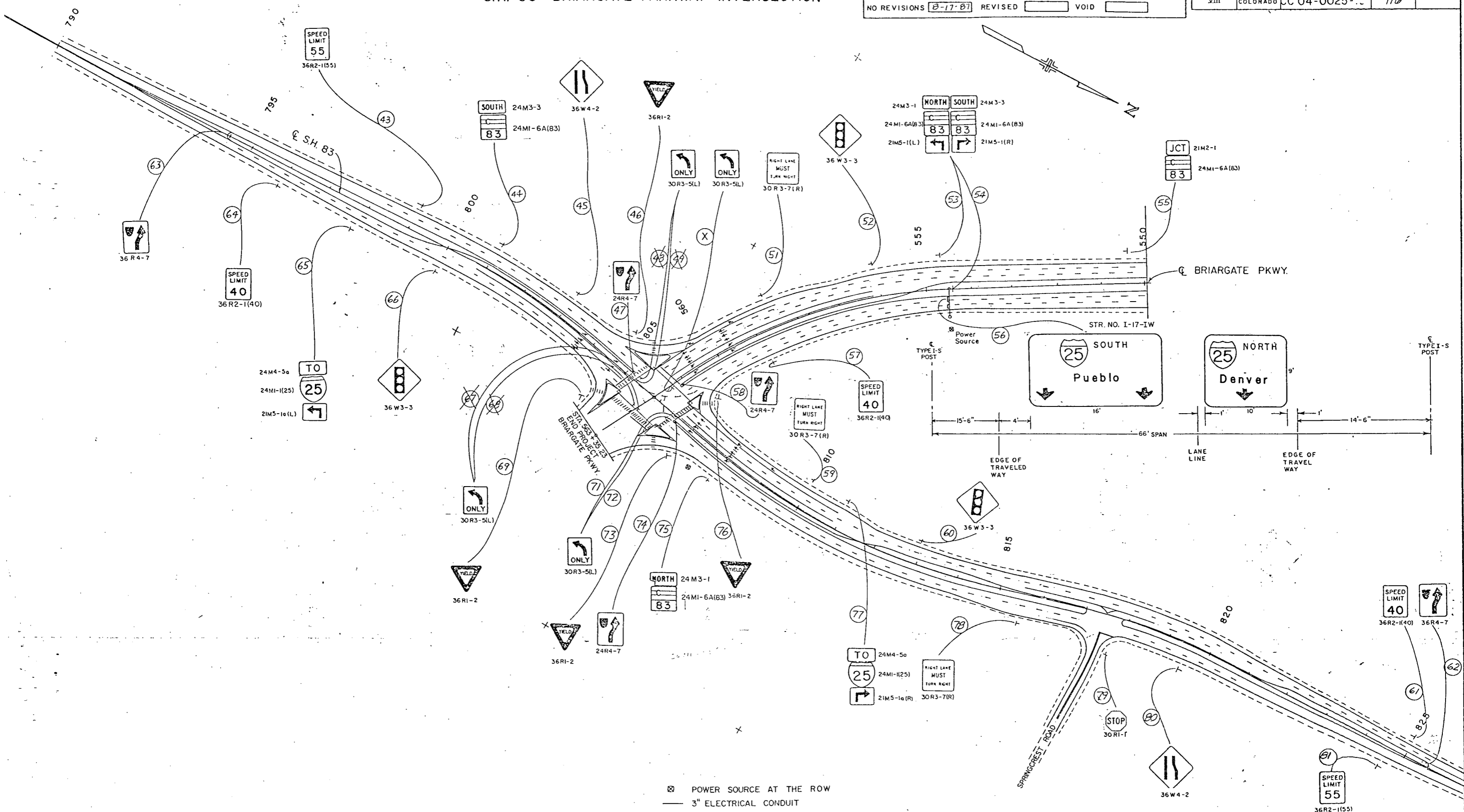
I 25 / BRIARGATE PARKWAY INTERCHANGE				
SIGNING AND STRIPING				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS	CHECKED BY	OF SHEETS	

S.H. 83 BRIARGATE PARKWAY INTERSECTION

AS CONSTRUCTED

NO REVISIONS [B-17-B] REVISED [ ] VOID [ ]

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-11	116	



☒ POWER SOURCE AT THE ROW  
 — 3" ELECTRICAL CONDUIT  
 = 3" ELECTRICAL CONDUIT (JACKED)  
 ALL SIGNS MARKED (X) ARE NOT INCLUDED IN THIS CONTRACT.  
 ALL SIGNS MARKED [ ] ARE TO REMAIN IN PLACE.

I 25/BRIARGATE PARKWAY INTERCHANGE				
SIGNING AND STRIPING				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
	URS		OF SHEETS	

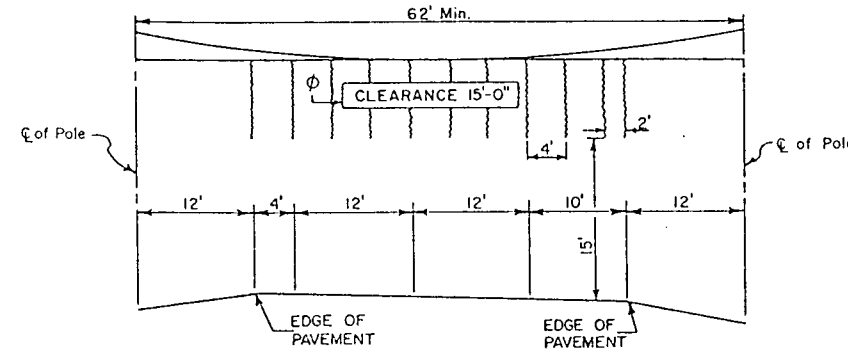
# OVERHEIGHT VEHICLE DETOUR and CABLE-CHAIN WARNING SYSTEM

AS CONSTRUCTED

NO REVISIONS 8-17-87 REVISED   VOID  

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	117	

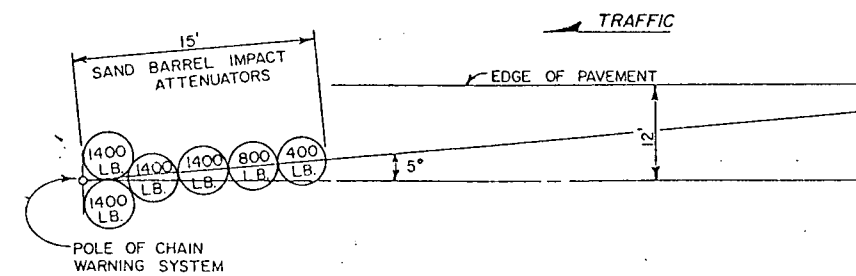
## DETAIL CABLE-CHAIN WARNING SYSTEM



NORTH BOUND STA. 1292+00 & STA. 1365+00  
SOUTH BOUND STA. 1394+00 & 1500 ft. No. of Exit 156.

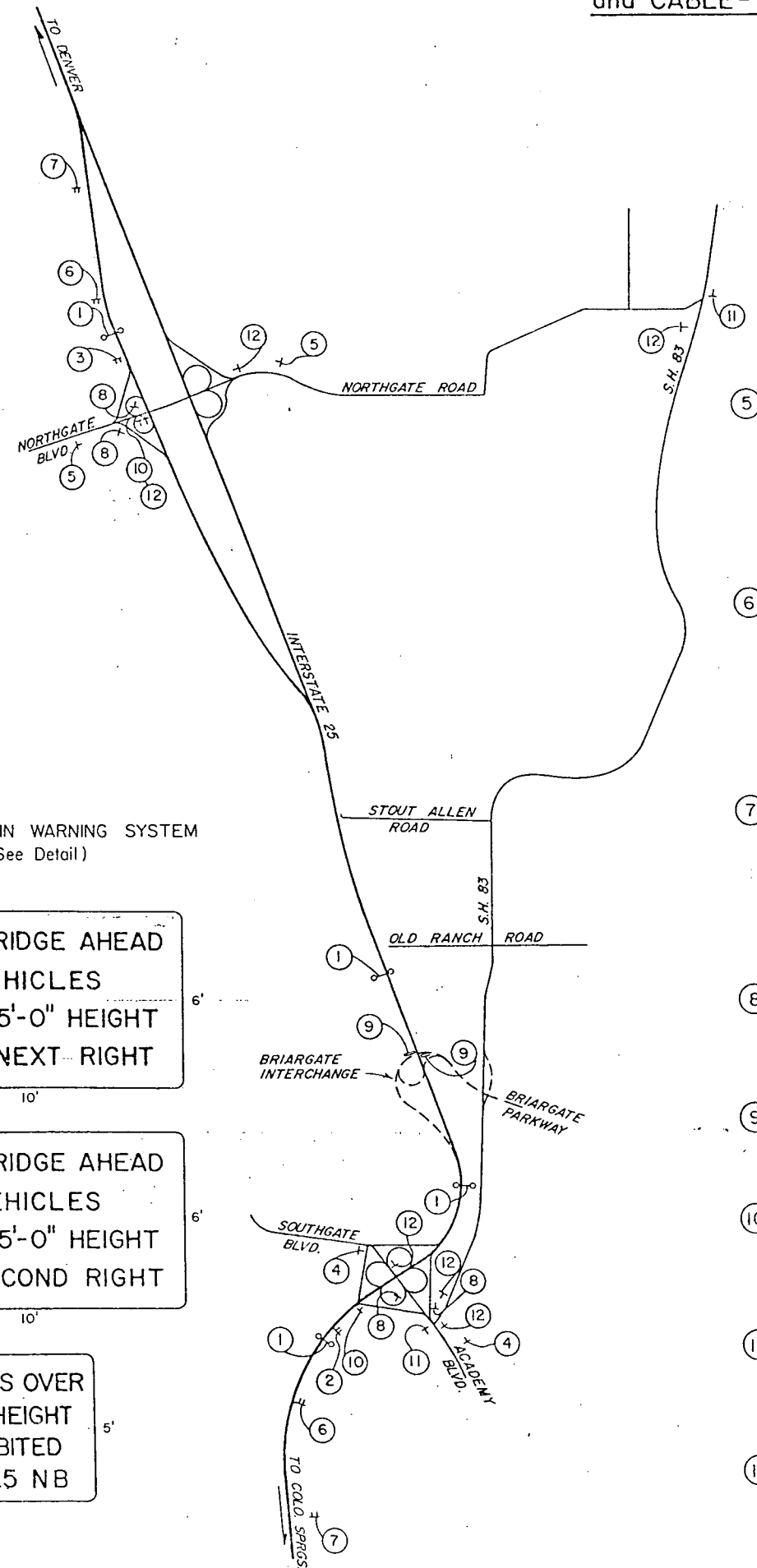
Includes Sign Panel No. 9, "CLEARANCE 15'-0''"  
Sign Panel Only To Be Paid For As Construction Traffic Sign (Panel Size C)

It Is The Contractor's Responsibility To Protect His Falsework, Cable-Chain Warning System And Attenuator (Temporary) Will Not Be Paid For Separately, But Will Be Included In The Work. Other Types Of Warning System May Be Used If Approved By The Engineer.



DETAIL OF IMPACT ATTENUATORS  
(TEMPORARY)

NOTE: The Six Sand Barrels Are Paid For As One Impact Attenuator



VEHICLES OVER  
15'-0" HEIGHT  
PROHIBITED  
ON I 25 SB

LOW BRIDGE AHEAD  
VEHICLES  
OVER 15'-0" HEIGHT  
MUST EXIT 1/2 MILE

LOW BRIDGE AHEAD  
VEHICLES  
OVER 15'-0" HEIGHT  
MUST EXIT 1 MILE

VEHICLES OVER  
15'-0" HEIGHT  
PROHIBITED

CLEARANCE 15'-0"

VEHICLES OVER  
15'-0" HEIGHT  
MUST EXIT

OVERHEIGHT  
DETOUR

OVERHEIGHT  
DETOUR

LOW BRIDGE AHEAD  
VEHICLES  
OVER 15'-0" HEIGHT  
EXIT NEXT RIGHT

LOW BRIDGE AHEAD  
VEHICLES  
OVER 15'-0" HEIGHT  
EXIT SECOND RIGHT

VEHICLES OVER  
15'-0" HEIGHT  
PROHIBITED  
ON I 25 NB

SIGN NO.

1 CABLE-CHAIN WARNING SYSTEM (See Detail)

2 LOW BRIDGE AHEAD VEHICLES OVER 15'-0" HEIGHT EXIT NEXT RIGHT

3 LOW BRIDGE AHEAD VEHICLES OVER 15'-0" HEIGHT EXIT SECOND RIGHT

4 VEHICLES OVER 15'-0" HEIGHT PROHIBITED ON I 25 NB

I 25 / BRIARGATE PARKWAY INTERCHANGE				
DETOUR SIGNING - OVERHEIGHT VEHICLES				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
7-15-85	URS 5060	DRAWN BY	OF	SHEETS

# CROSS SECTIONS AT CLASS III SIGN LOCATIONS

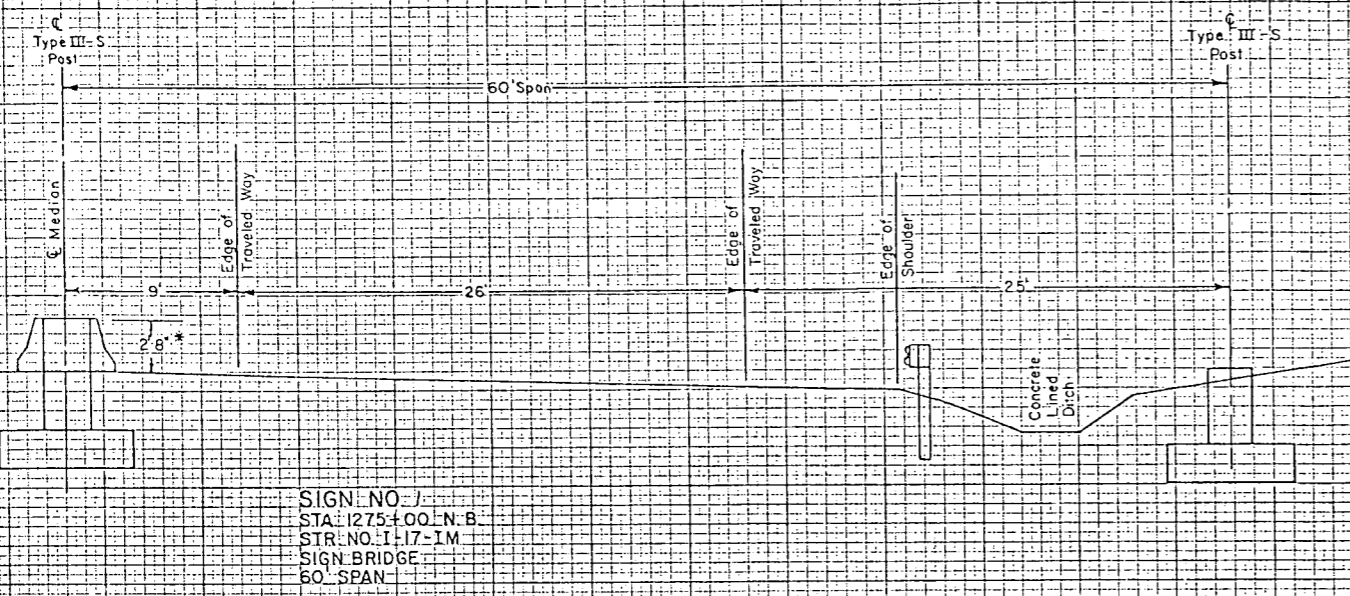
AS CONSTRUCTED

NO. REVISIONS **8-17-87**

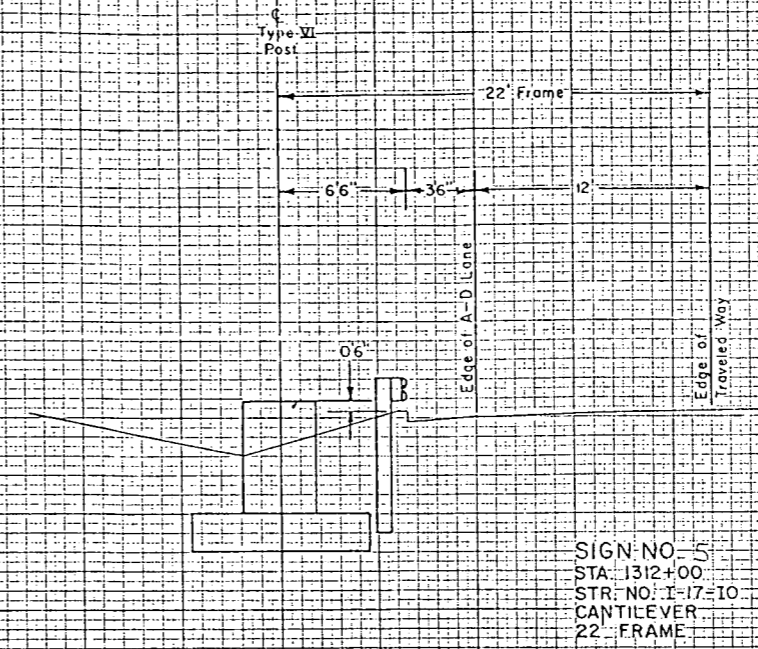
REVISED

VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3311	COLORADO	CC 04-0025-19	118	



SIGN NO. 7  
STA. 1275+00 N.B.  
STR. NO. I-17-1M  
SIGN BRIDGE  
60' SPAN



SIGN NO. 5  
STA. 1312+00  
STR. NO. I-17-10  
CANTILEVER  
22' FRAME

\* NORMAL BARRIER HEIGHT SHOWN MAY BE INCREASED TO RAISE THE MEDIAN BARRIER ABOVE THE LINE OF SIGHT BETWEEN THE ROADWAYS FOR "GLARE WALL"

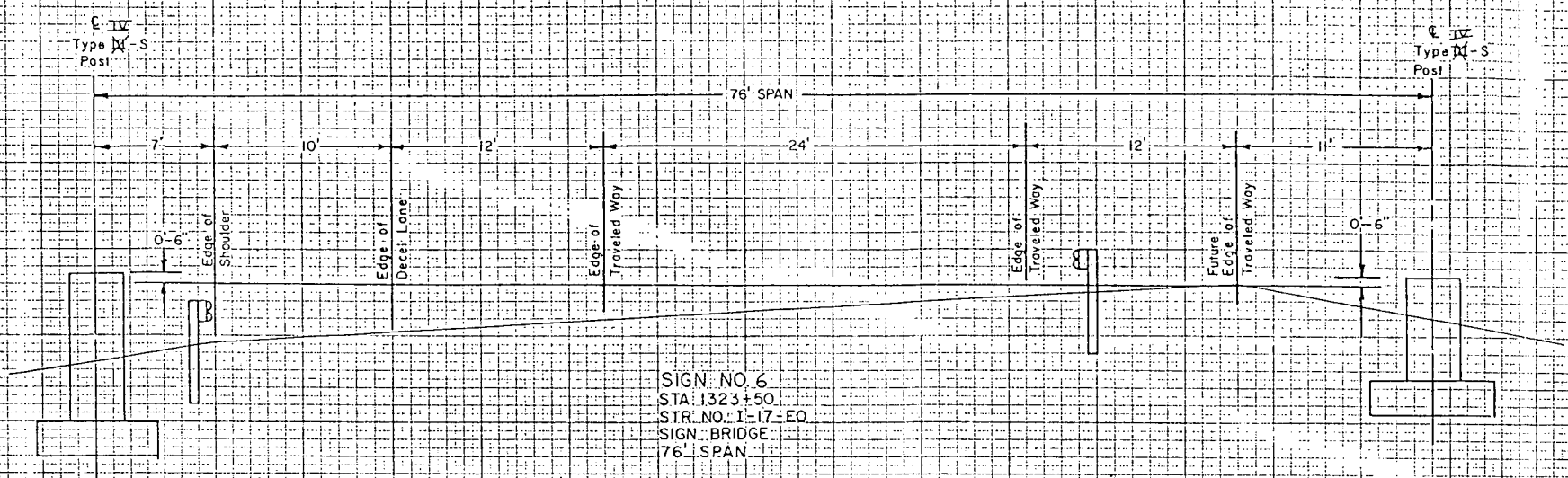


SIGN NO. 7  
STA. 1310+00  
STR. NO. I-17-1N  
SIGN BRIDGE  
69' SPAN

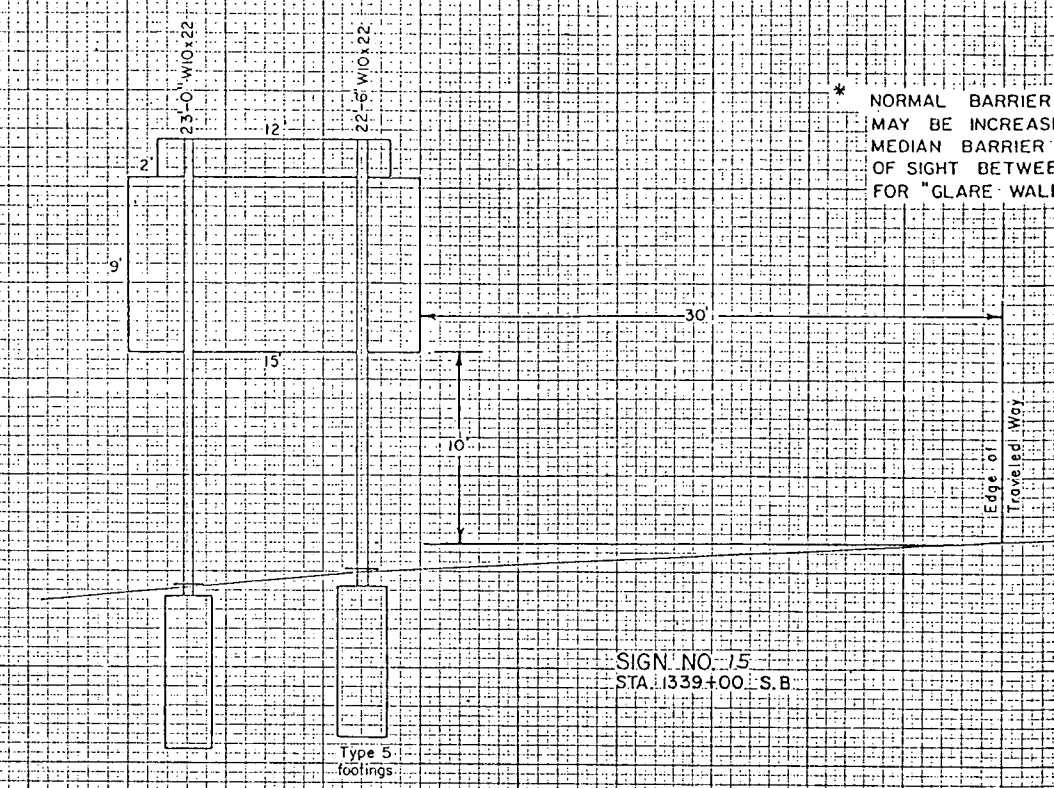
NOTE: REDUCE THIS POST LENGTH BY 2'-0"

# CROSS SECTIONS AT CLASS III SIGN LOCATIONS

AS CONSTRUCTED		REGIONAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
NO. REVISIONS	8-17-87	REVISED	VOID	COLOMADO	CC 04-0025-19	119

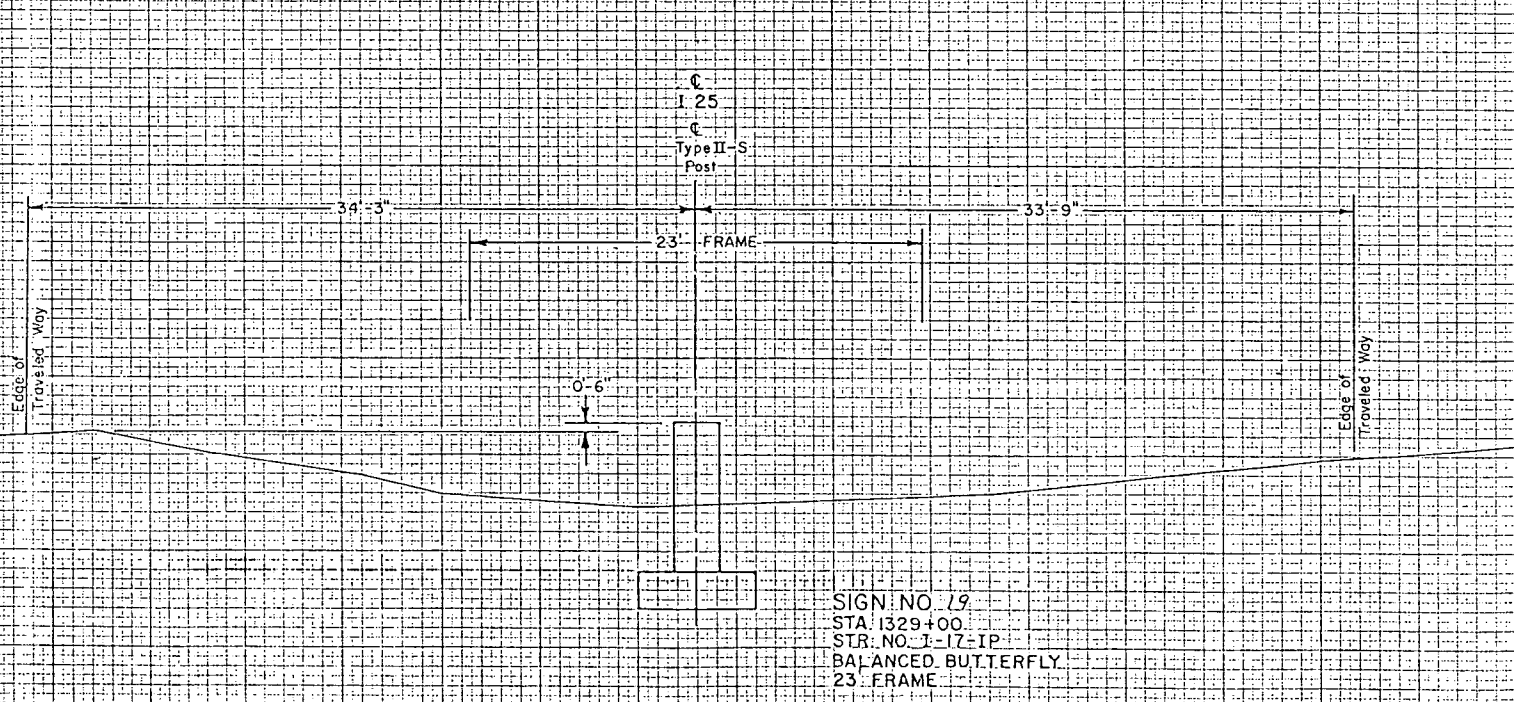


SIGN NO. 6  
 STA: 1323+50  
 STR. NO. I-17-EO  
 SIGN BRIDGE  
 76' SPAN

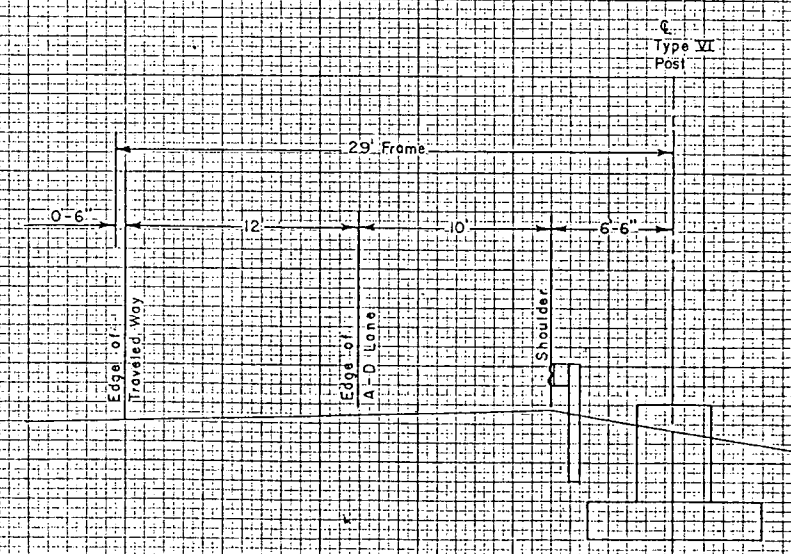


SIGN NO. 15  
 STA: 1339+00 S.B.

\* NORMAL BARRIER HEIGHT SHOWN  
 MAY BE INCREASED TO RAISE THE  
 MEDIAN BARRIER ABOVE THE LINE  
 OF SIGHT BETWEEN THE ROADWAYS  
 FOR "GLARE WALL".



SIGN NO. 19  
 STA: 1329+00  
 STR. NO. I-17-IP  
 BALANCED BUTTERFLY  
 23' FRAME



SIGN NO. 22  
 STA: 1343+00  
 STR. NO. I-17-10  
 CANTILEVER  
 29' FRAME

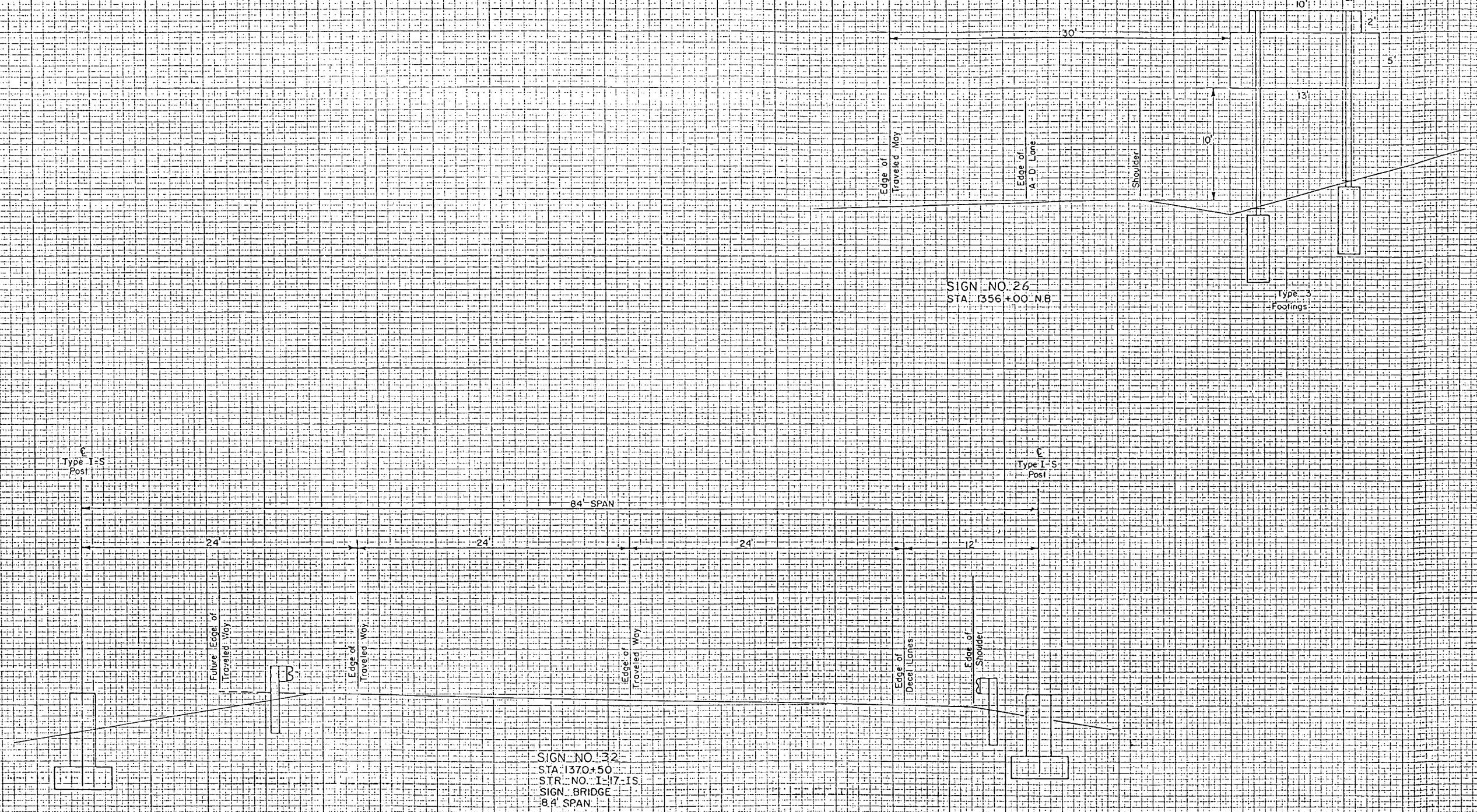
# CROSS SECTIONS AT CLASS III SIGN LOCATIONS

AS CONSTRUCTED

NO. REVISIONS **8-17-87** REVISED  VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	120	

\* NORMAL BARRIER HEIGHT SHOWN MAY BE INCREASED TO RAISE THE MEDIAN BARRIER ABOVE THE LINE OF SIGHT BETWEEN THE ROADWAYS FOR "GLARE WALL."





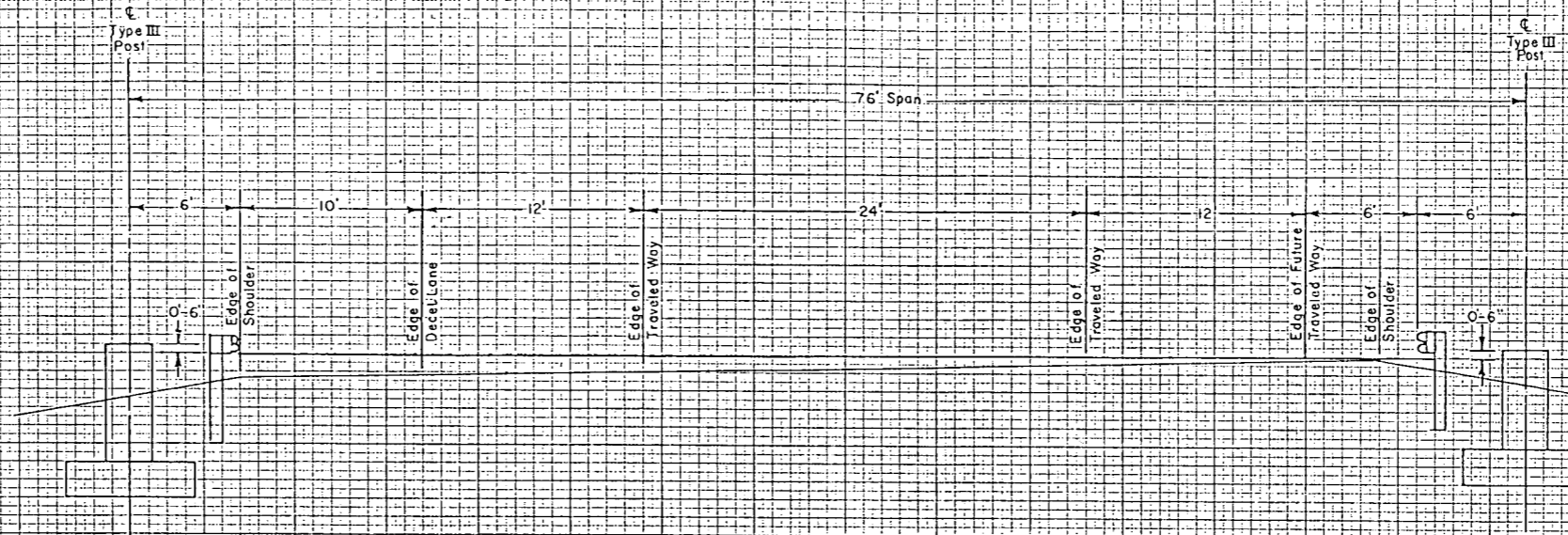
# CROSS SECTIONS AT CLASS III SIGN LOCATIONS

AS CONSTRUCTED

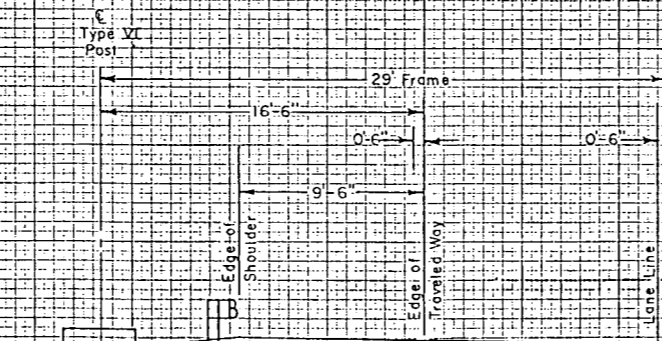
NO. REVISIONS 8-17-07 REVISED   VOID  

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	121	

\* NORMAL BARRIER HEIGHT SHOWN MAY BE INCREASED TO RAISE THE MEDIAN BARRIER ABOVE THE LINE OF SIGHT BETWEEN THE ROADWAYS FOR "GLARE WALL"



SIGN NO. 30  
 STA. 1375+34  
 STR. NO. I-17-IT  
 SIGN-BRIDGE  
 76 SPAN



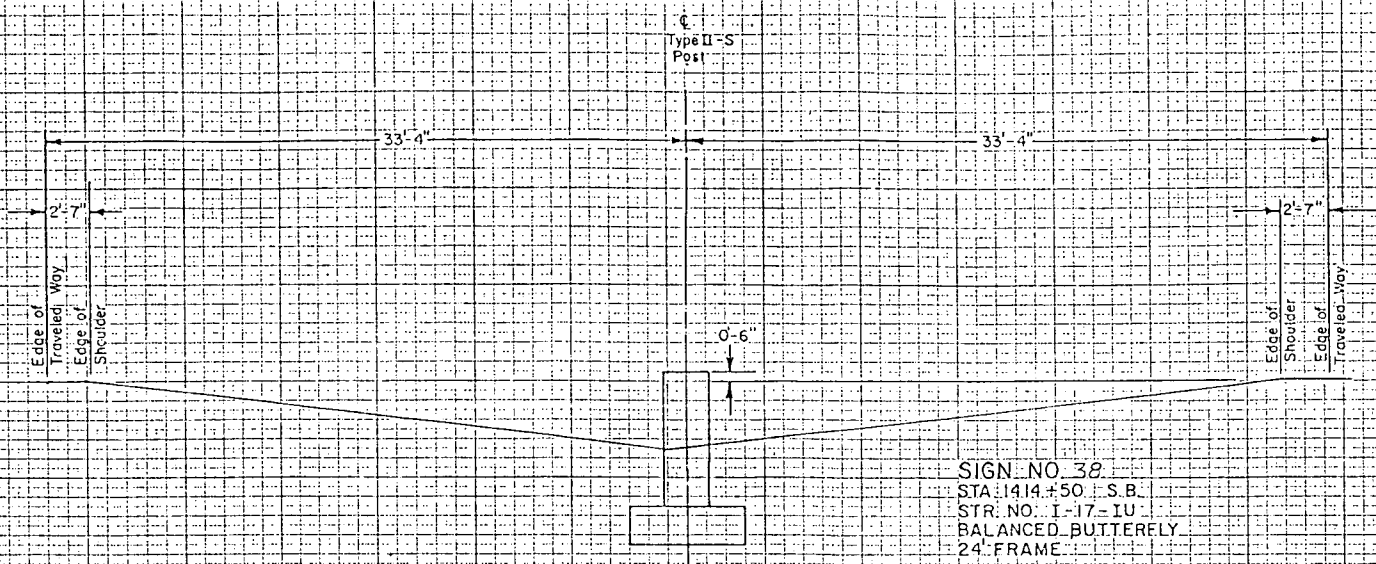
SIGN NO. 21  
 STA. 1428+50  
 STR. NO. I-17-IV  
 CANTILEVER  
 29 FRAME

CROSS SECTIONS AT CLASS III SIGN LOCATIONS

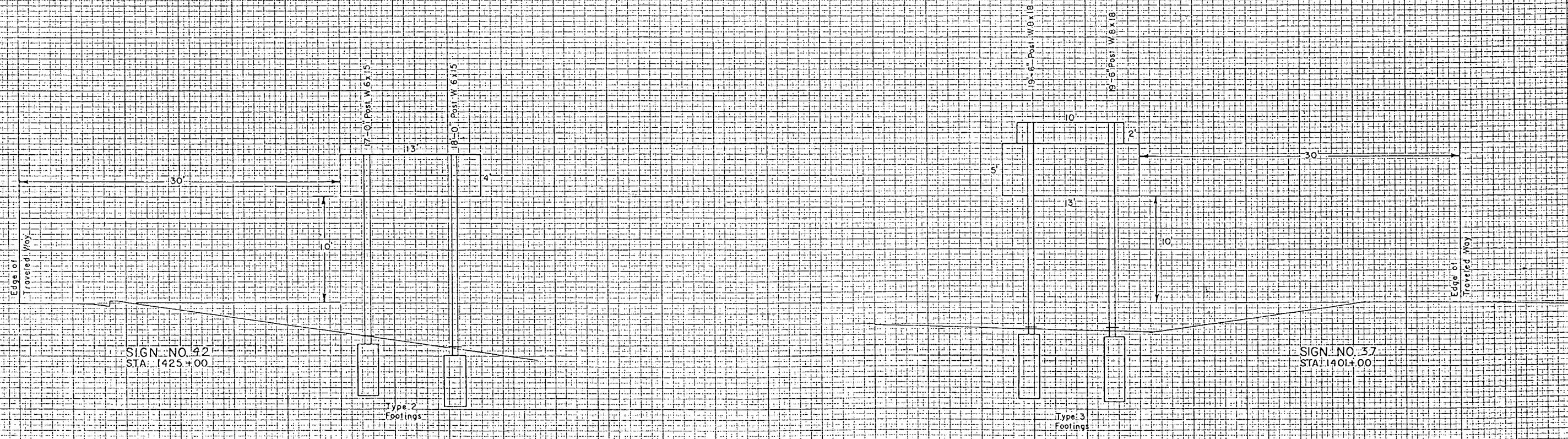
AS CONSTRUCTED

NO. REVISIONS 8-17-87 REVISED   VOID  

FEDERAL ROAD REGION NO	DIVISION	PROJ. NO	SHEET NO	TOTAL SHEETS
VIII	COLORADO	CC 04-2500-13	122	



\* NORMAL BARRIER HEIGHT SHOWN MAY BE INCREASED TO RAISE THE LINE OF SIGHT BETWEEN THE ROADWAYS FOR "GLARE WALL".



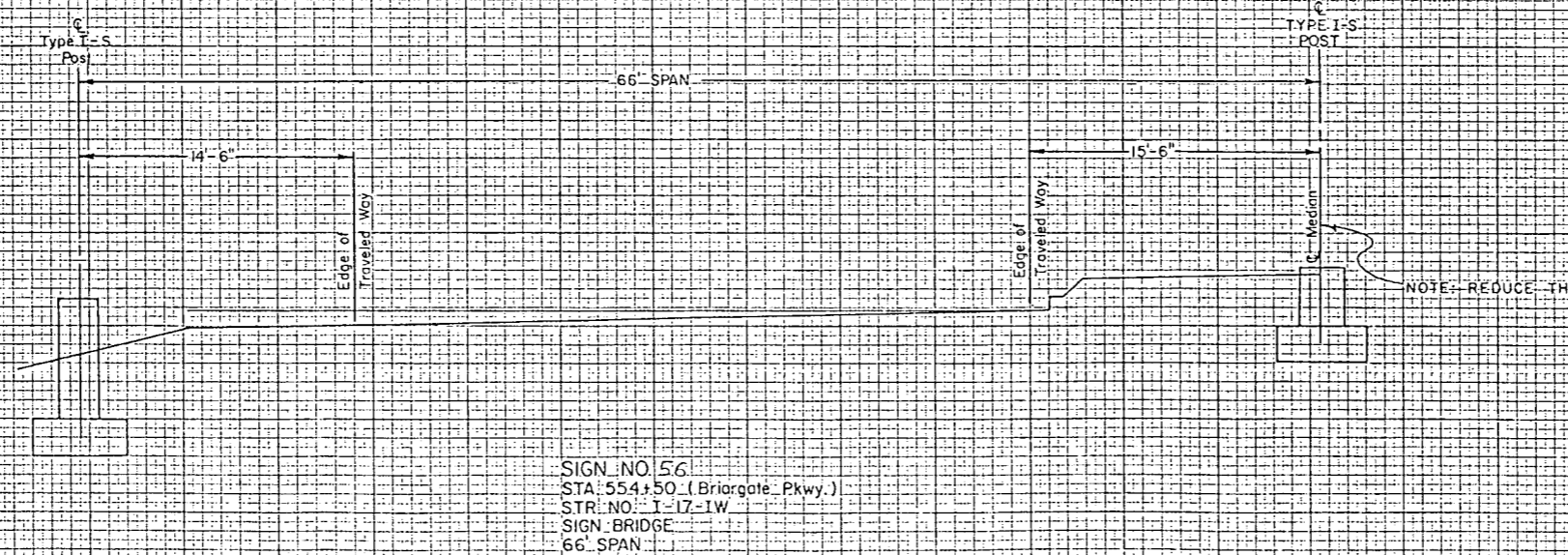
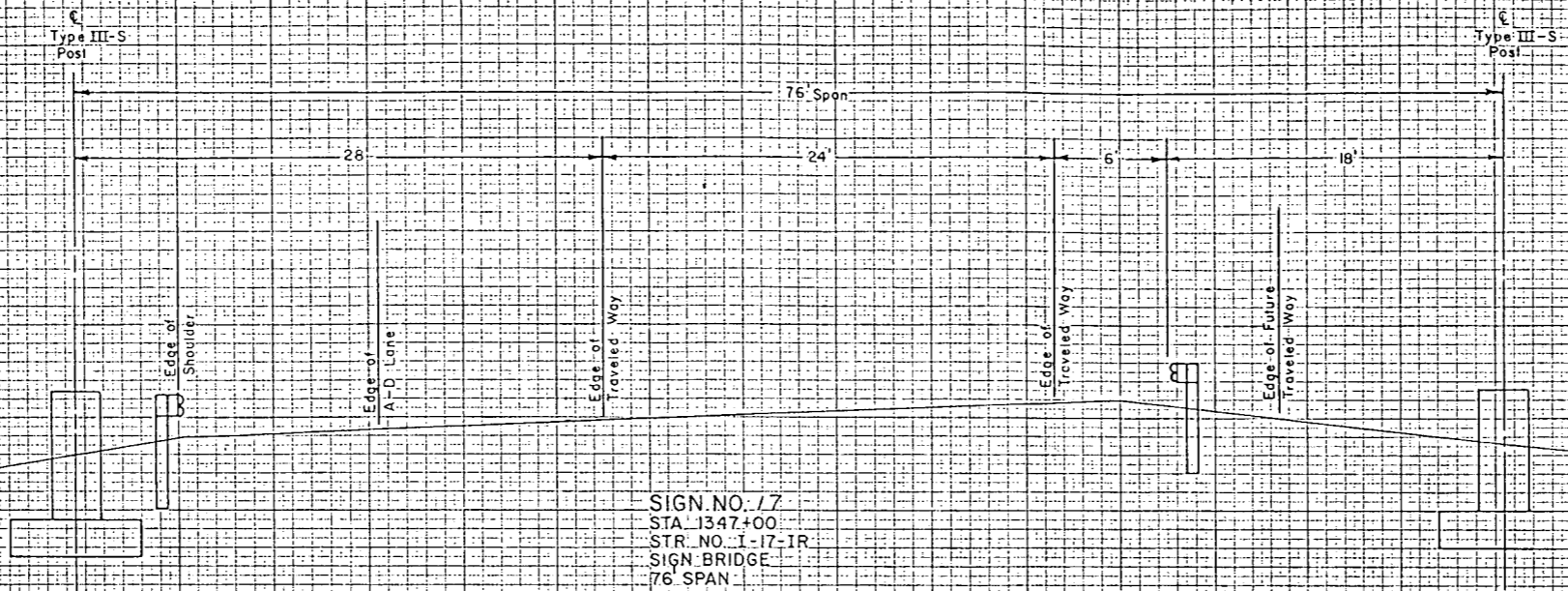
# CROSS SECTIONS AT CLASS III SIGN LOCATIONS

AS CONSTRUCTED

NO. REVISIONS **8-17-81** REVISED  VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
III	COLORADO	CC 04-0025-19	123	

\* NORMAL BARRIER HEIGHT SHOWN MAY BE INCREASED TO RAISE THE MEDIAN BARRIER ABOVE THE LINE OF SIGHT BETWEEN THE ROADWAYS FOR "GLARE WALL".



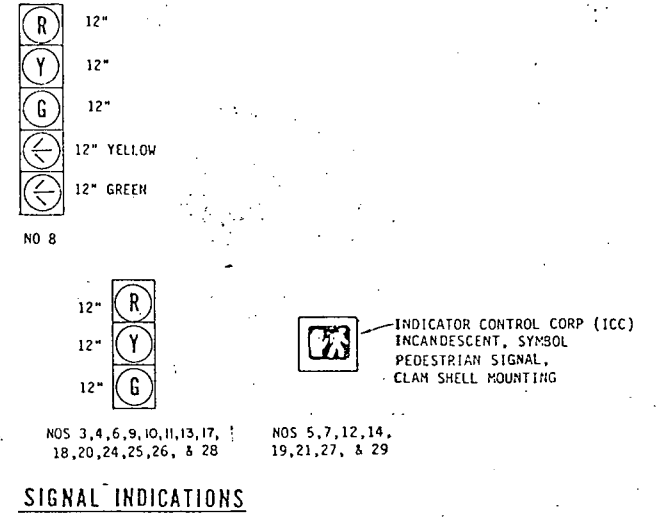
AS CONSTRUCTED  
 NO REVISIONS [ ] REVISED 8-17-67 VOID [ ]

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 04-0025-19	124	

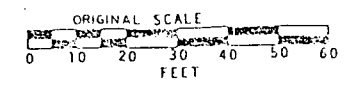
- GENERAL NOTES:**
1. CONTROLLER SHALL BE TYPE 170 OF THE CURRENT "CITY OF COLORADO SPRINGS SPECIFICATIONS". CONTACT CITY TRAFFIC ENGINEER FOR LATEST REVISIONS.
  2. SIGNAL AND LUMINAIRE SUPPORTS SHALL BE A BOX-TETHERED SPANWIRE, USING BOLT-DOWN GALVANIZED STEEL STRAIN POLES.
  3. SEE SIGNING & STRIPING PLANS FOR PROPER CROSSWALK LOCATION AND LAYOUT.
  4. TRAFFIC SIGNAL POLES SHALL INCLUDE MAST ARMS, CONCRETE FOUNDATIONS, AND ALL NECESSARY HARDWARE TO COMPLETE THE ITEM IN PLACE.

TABULATION OF TRAFFIC SIGNAL QUANTITIES

EM. NO.	ITEM	UNIT	PROJECT TOTALS	
13	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LIN. FT.	7500	1740
14	PEDESTRIAN SIGNAL FACE (18)	EACH	8	6
14	TRAFFIC SIGNAL FACE (12-12-12)	EACH	28	10
14	TRAFFIC SIGNAL FACE (12-12-12-12)	EACH	1	
14	TRAFFIC SIGNAL CONTROLLER CABINET	EACH	1	
14	LOOP DETECTOR WIRE	LIN. FT.	6200	6444
14	TRAFFIC SIGNAL VEHICLE DETECTOR AMPLIFIER (LOOP TYPE)	EACH	8	
14	TRAFFIC SIGNAL-LIGHT SPAN WIRE POLE (12 INCH)	EACH	4	
14	TRAFFIC SIGNAL CONTROLLER (FULL ACTUATED) (8 PHASE)	EACH	1	



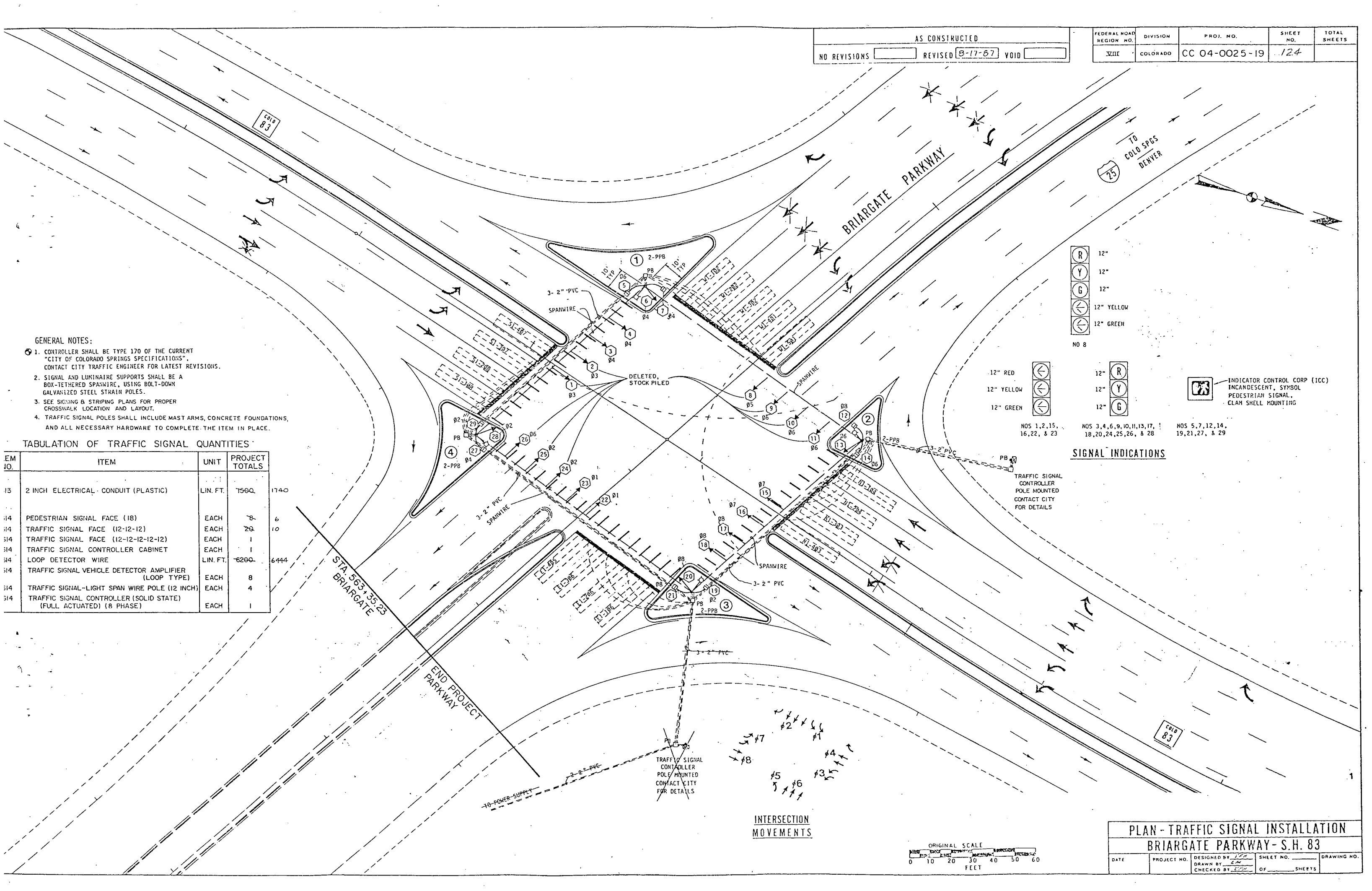
**INTERSECTION MOVEMENTS**



**PLAN - TRAFFIC SIGNAL INSTALLATION**  
**BRIARGATE PARKWAY - S.H. 83**

DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.

CHECKED BY OF SHEETS



CABLE SPLICING

1. PERMISSIBILITY

NO SPLICE SHALL BE MADE IN AN INACCESSIBLE LOCATION OR IN A LOCATION UNDULY EXPOSED TO WEATHER. WITH THE EXCEPTION OF LOOP WIRE TO DETECTOR LEAD-INS SPLICES, ABSOLUTELY NO SPLICES WILL BE PERMITTED IN PULLBOXES. ALL WIRING SHALL BE DESIGNED TO MINIMIZE NUMBERS OF SPLICES. ALL CABLES SHALL BE CONTINUOUS FROM POINT OF TERMINATION IN CONTROLLER CABINET TO POINT OF USAGE IN FIELD. UNLESS SPECIAL PERMISSION IS GRANTED, THIS CONTINUOUS CABLE REQUIREMENT SHALL APPLY TO ALL SIGNAL CABLES, DETECTOR LEAD-INS, AND POWER CABLES. UNDERGROUND FED SIGNALS, (I.E. MASTERARMS) MAY BE SPLICED AT THE POLE BASE HANDHOLE BUT INDIVIDUAL CABLES FOR EACH SIGNAL HEAD MUST BE BROUGHT TO THE HANDHOLE AND SHALL NOT BE SPLICED ELSEWHERE. IN GENERAL, SPLICES ARE PERMISSIBLE IN SIGNAL CABLES ONLY WHERE INDIVIDUAL FEED CABLES ENTER THE MAIN CABLE. DETECTOR LEAD CABLES CAN BE USED FOR ONE LOOP ONLY AND SO NO SPLICES ARE PERMISSIBLE. LIKEWISE, POWER CABLES SHALL BE CONTINUOUS.

2. GENERAL

ALL SIGNAL CABLE COLOR CODING SHALL BE IN ACCORDANCE WITH CITY STANDARDS. ALL CONDUCTORS WITH WHITE SHEATHING SHALL BE RESERVED FOR AC NEUTRAL RETURNS AND NO OTHER COLOR SHALL BE USED FOR A RETURN. ALL WHITES SHALL BE CONNECTED IN THE CONTROLLER AND MUST BE CONTINUOUS TO THE AC NEUTRAL AT ANY POINT OF ANY TRAFFIC SIGNAL CABLE. ANY CABLE EQUIPPED WITH A SHIELD AND DRAIN WIRE SHALL HAVE THE SHIELD CONNECTED TO GROUND AT THE CONTROLLER CABINET END ONLY. IF A SPLICE IS PERMITTED IN A SHIELDED CABLE THE SHIELD SHALL BE SPLICED ALSO. ALL SPLICING SHALL BE CARRIED OUT IN THE NEAREST POSSIBLE FASHION, AND CABLES NOT INVOLVED IN A PARTICULAR SPLICE MAY NOT BE INTERFERED WITH THE CONDUCTORS OF A SPLICE. ALL FUNCTIONS AND VOLTAGES SHALL BE TERMINATED AT THE POINT OF LAST USAGE, WITH THE EXCEPTION OF GROUND LINES. SUFFICIENT CABLE SHALL BE RESERVED TO FACILITATE POSSIBLE RESPLICING.

3. MATERIALS

SPLICES ON POWER CABLES SHALL BE MADE WITH THE APPROPRIATELY SIZED COMPRESSION CONNECTORS. SCREW TYPE CONNECTORS SUCH AS KERNEY OR SPLIT BOLT CONNECTOR SHALL NOT BE USED. FOR 14 AWG WIRE SUCH SIGNAL CABLE OR DETECTOR LEAD SHALL BE MADE USING ONLY UNINSULATED BUTT SPLICES FOR 15-16 AWG WIRE OR 10-12 AWG SPLICES FOR 2 PAIRS OF 14 AWG WIRES. 10-12 AWG BUTT SPLICES SHALL NOT BE CRIMPED WITH 2 14 AWG WIRES INSERTED. TERMINATION OF WIRES IN CONTROLLER CABINETS SHALL BE MADE WITH CRIMP-ON FORKS SIZED TO THE WIRES USED. ONLY ONE WIRE SHALL BE USED PER FORK. ALL CRIMPS ON 14 AWG WIRES SHALL BE MADE WITH VACO #1900 CRIMPING TOOL OR EQUAL. CRIMPS ON POWER CABLES SHALL BE MADE WITH APPROPRIATE COMPRESSION TOOL. PROPER SIZED CRIMP-ON CONNECTORS FOR WIRES INVOLVED SHALL BE USED. UNDER NO CIRCUMSTANCES SHALL CIRCULAR MIL AREA OF WIRE BE REDUCED TO FIT CRIMP-ON CONNECTOR. INSULATING TAPE USED SHALL BE SCOTCH BRAND #88 ONLY. NO SUBSTITUTES SHALL BE ALLOWED. SOME SPLICES REQUIRE USAGE OF SELF-VULCANIZING RUBBER TAPE, IN THESE APPLICATIONS OKONITE LOW VOLTAGE RUBBER TAPE OR EQUAL SHALL BE USED.

4. TAPING

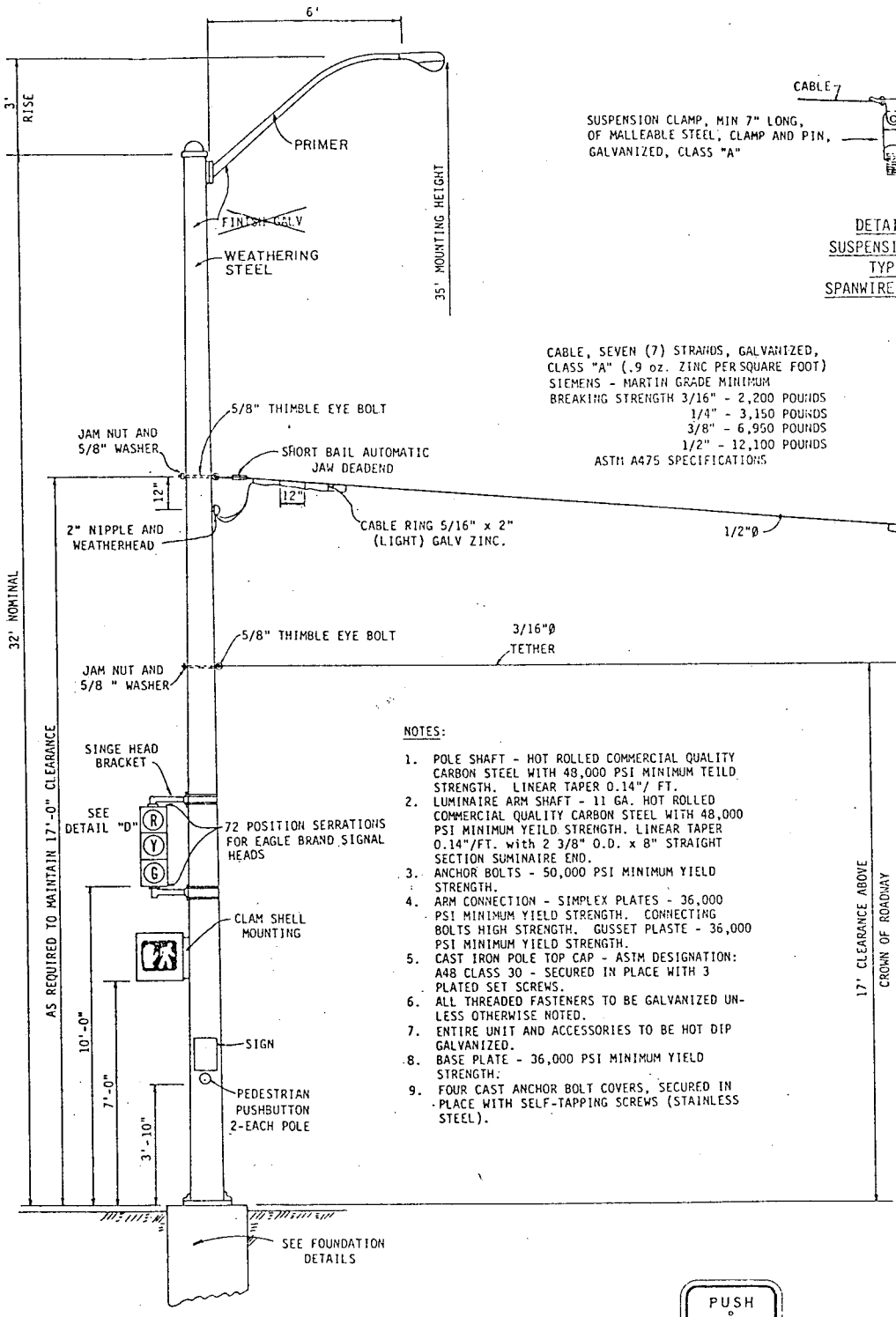
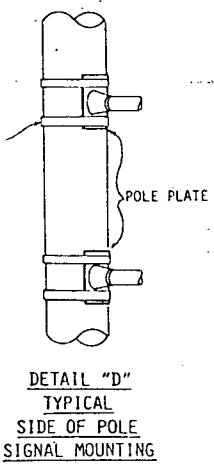
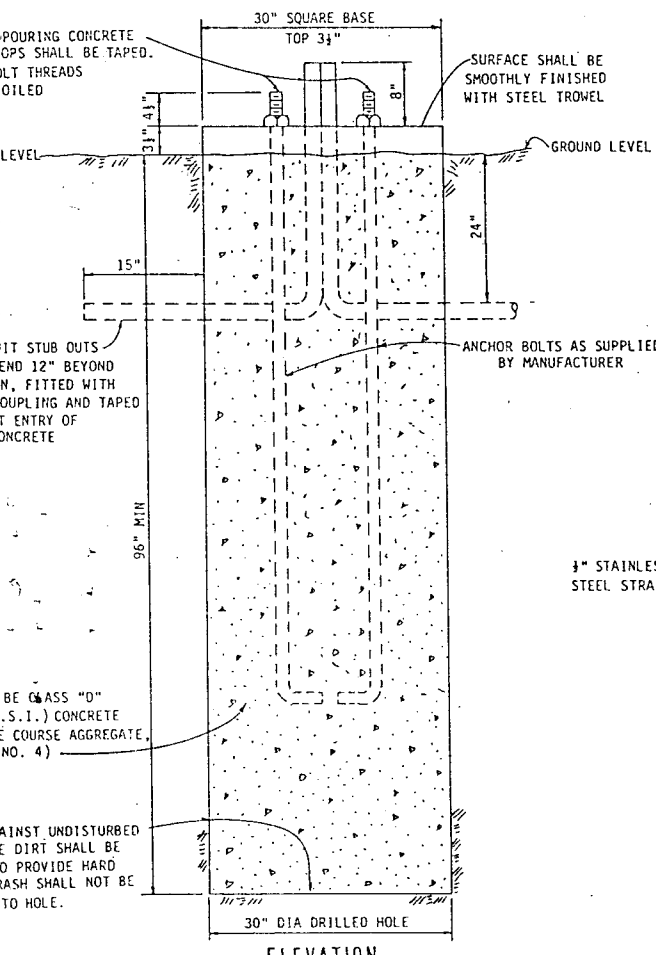
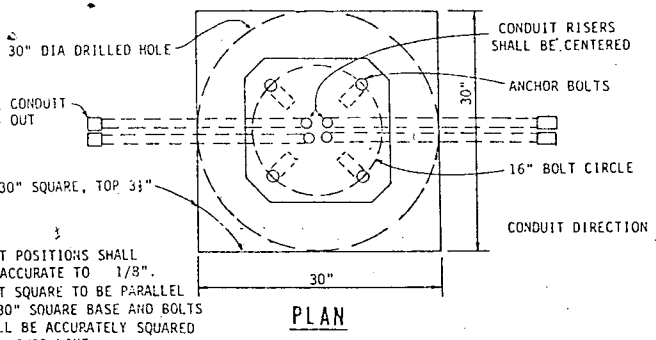
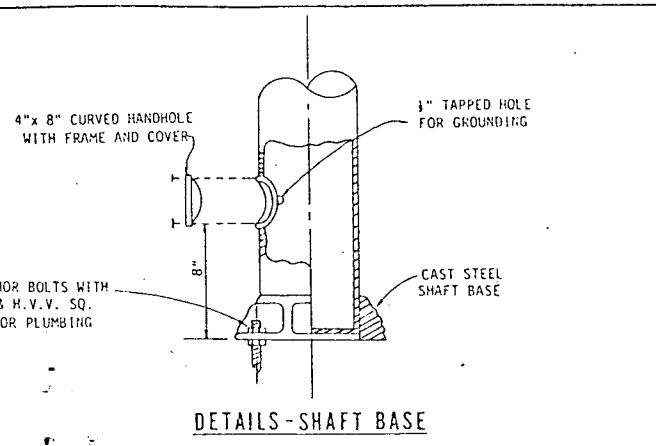
ELECTRICAL TAPE SHALL BE APPLIED IN SUCH A FASHION THAT NO WRINKLES ARE PRESENT IN TAPE. TAPING SHALL BE DONE IN THE NEAREST POSSIBLE FASHION TO MINIMIZE POSSIBILITIES OF MOISTURE ENTERING SPLICE AND TO MINIMIZE POSSIBILITY OF TAPE COMING UNSTUCK AND SO UNRAVELING AND EXPOSING SPLICE. SCOTCH #88 SHALL BE USED TO INSULATE SPLICES AND SHALL BE APPLIED SO THAT NO LESS THAN ONE TAPE WIDTH EXTENDS BEYOND ANY LIVE METAL AND SHALL BE NO LESS THAN TWO WRAPS THICK. OKONITE SHALL BE USED TO REPLACE CABLE SHEATHING. OKONITE SHALL BE APPLIED TO ADEQUATE THICKNESS TO SMOOTH AND ENCASE ENTIRE SPLICE AND SHALL BE "DIAPERED" TO MOISTURE PROOF CABLES EXITING A SPLICE ADJACENTLY. OVERALL ABRASION AND MOISTURE PROTECTION SHALL BE PROVIDED BY NO LESS THAN THREE WRAPS OF SCOTCH #88, EACH LAYER OF WHICH OVERLAPS THE PREVIOUS LAYER BY ONE TAPE WIDTH. ALL NEUTRALS SHALL BE INSULATED AND TAPED LIKE ANY OTHER CONDUCTOR. TAPE SHALL BE HANDLED IN SUCH A MANNER AS TO PREVENT DIRT OR OTHER MATERIALS CONTAMINATING SPLICE.

5. HANDHOLE SPLICING

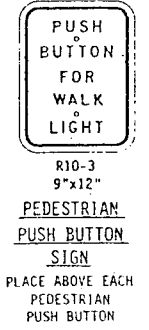
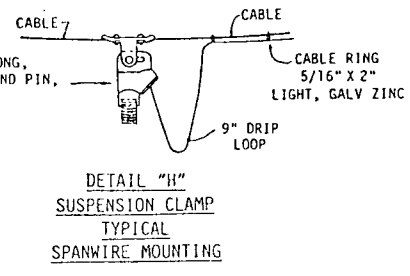
SPLICES MADE IN POLE BASE HANDHOLES REQUIRE ATTENTION TO ENSURE THAT ALL CABLES ENTER SPLICE IN A PARALLEL FASHION SO THAT SPLICE CAN BE PULLED SAFELY OUT OF THE POLE. NO SPLICE SHALL BE MADE SO THAT REPAIRS OR INSPECTION ARE FORCED TO TAKE PLACE INSIDE THE POLE. SPARE CABLE WITH SHEATHING INTACT SHALL BE AVAILABLE FOR RESPLICING. OVERALL OKONITING OR TAPING WITH SCOTCH #88 IS NOT REQUIRED ON HANDHOLE SPLICES. SPLICES INSIDE A POLE OR MAIN ARM ARE PERMISSIBLE ONLY AT THE HANDHOLE. SPARE CONDUCTORS SHALL NOT BE CUT BACK.

6. OVERHEAD SPLICES

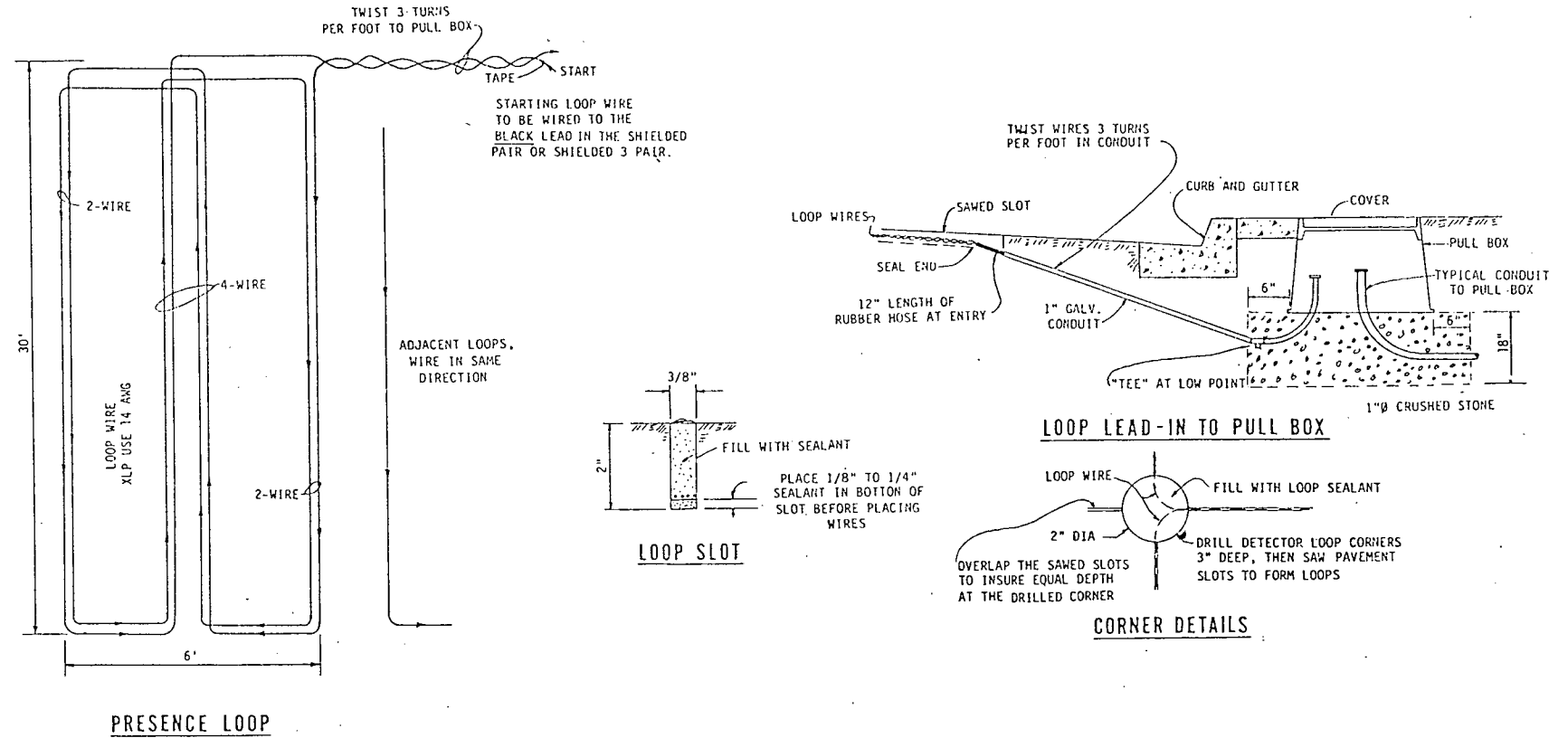
LIKE CABLES IN CONDUIT OVERHEAD CABLES SHALL BE PULLED CONTINUOUSLY FROM CONTROLLER TERMINATION TO POINT OF LAST USAGE. SPLICES FOR FEEDER CABLES TO INDIVIDUAL HEADS ARE MADE ON THIS MAIN CABLE. WITH THE EXCEPTION OF GROUNDS, ALL FUNCTIONS ARE TERMINATED AT POINT OF LAST USAGE. SHEATHING IS REMOVED AT POINT OF SPLICE AND ONLY THOSE CONDUCTORS NEEDED IN A GIVEN SPLICE MAY BE CUT, ALL OTHER CONDUCTORS SHALL REMAIN INTACT. THE SPLICE SHALL BE MADE IN SUCH A FASHION AS TO PREVENT ANY CONDUCTOR BECOMING SHORTER THAN ANOTHER. TAPING AND SHEATHING REPLACEMENT SHALL BE PER SECTION (4). SPLICE SHALL BE PLACED 18 INCHES FROM SIGNAL HANGER. AT LEAST ONE CABLE SUPPORT RING SHALL BE LOCATED BETWEEN SPLICE AND SIGNAL HEAD. A SERVICE AND DRIP LOOP SHALL BE PROVIDED AT SIGNAL HEAD IN THE INDIVIDUAL HEADS FEED CABLE. THIS LOOP SHALL BE A COIL OF CABLE 12 INCHES IN DIAMETER AND TAPED TO THE FEED WIRE AT THE TOP. SLACK IN MAIN CABLE SHALL BE PULLED OUT AND CABLE TAPED TO SPAN WIRE GRIPS AT ENDS OF SPAN. DRIP LOOP SHALL BE PROVIDED AT POLES FOR THE MAIN OVERHEAD FEED CABLE, AND FOR ANY DETECTOR CABLES PRESENT. THESE LOOPS ALSO SHALL BE ABOUT 12 INCHES IN DIAMETER. ALL SPLICES ON OVERHEAD CABLES SHALL BE PLACED ON SIDE OF SIGNAL HEAD CLOSEST TO CONTROLLER WITH SIGNAL ENTRANCE FITTINGS TURNED IN THE SAME DIRECTION. OVERHEAD SPLICES SHALL BE MADE ONLY BY EMPLOYEES EXHIBITING THE UTMOST IN WORKMANSHIP AND RELIABILITY.



- NOTES:
- POLE SHAFT - HOT ROLLED COMMERCIAL QUALITY CARBON STEEL WITH 48,000 PSI MINIMUM YIELD STRENGTH. LINEAR TAPER 0.14"/FT.
  - LUMINAIRE ARM SHAFT - 11 GA. HOT ROLLED COMMERCIAL QUALITY CARBON STEEL WITH 48,000 PSI MINIMUM YIELD STRENGTH. LINEAR TAPER 0.14"/FT. WITH 2 3/8" O.D. x 8" STRAIGHT SECTION LUMINAIRE END.
  - ANCHOR BOLTS - 50,000 PSI MINIMUM YIELD STRENGTH.
  - ARM CONNECTION - SIMPLEX PLATES - 36,000 PSI MINIMUM YIELD STRENGTH. CONNECTING BOLTS HIGH STRENGTH. GUSSET PLATE - 36,000 PSI MINIMUM YIELD STRENGTH.
  - CAST IRON POLE TOP CAP - ASTM DESIGNATION: A48 CLASS 30 - SECURED IN PLACE WITH 3 PLATED SET SCREWS.
  - ALL THREADED FASTENERS TO BE GALVANIZED UNLESS OTHERWISE NOTED.
  - ENTIRE UNIT AND ACCESSORIES TO BE HOT DIP GALVANIZED.
  - BASE PLATE - 36,000 PSI MINIMUM YIELD STRENGTH.
  - FOUR CAST ANCHOR BOLT COVERS, SECURED IN PLACE WITH SELF-TAPPING SCREWS (STAINLESS STEEL).



SUPPORT DETAILS				
BRIARGATE PARKWAY-S.H. 83				
DATE	PROJECT NO.	DESIGNED BY	SHEET NO.	DRAWING NO.
		WEL		
		DRAWN BY	OF	SHEETS
		CC		
		CHECKED BY		
		WEL		



**NOTES: LOOP INSTALLATION**

**1. MATERIALS**

- A. LOOP WIRE SHALL BE XLP USE 14 AWG.
- B. LOOP LEAD-IN WILL BE INSTALLED AS FOLLOWS:
  - (1) - 18 AWG, 3 PAIR, TWISTED AND SHIELDED SHOULD BE USED WHENEVER POSSIBLE.
  - (2) - 18 AWG, 2 CONDUCTOR, TWISTED AND SHIELDED MAY BE USED WHERE DIGITAL DETECTOR AMPLIFIERS ARE USED.
  - (3) - 14 AWG, 2 CONDUCTOR, TWISTED AND SHIELDED SHALL BE USED.
- C. SEALANT - GOLD LABEL FLEX AND CATALYST; #1 ALL SEASON GREEN-LABEL WHITE POWDER COATING SOLUTION/FLAMMABLE LIQUID UN 1139 CLASS 55.
- D. 14 AWG BUTT CONNECTORS AND ELECTRICAL TAPE.

**2. TEST EQUIPMENT**

- A. MEGGER
- B. LOOP CHECKER

**3. EQUIPMENT**

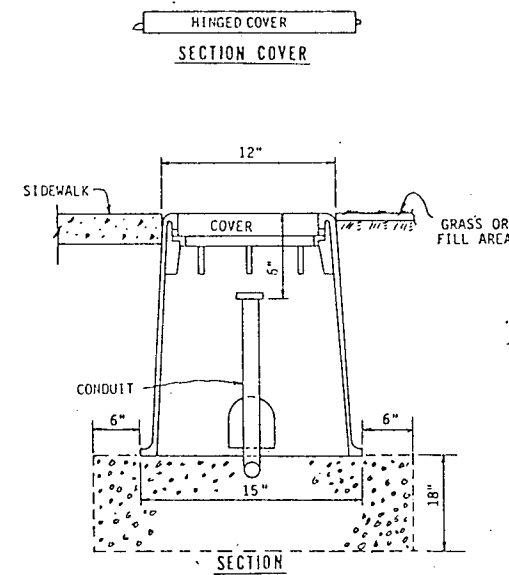
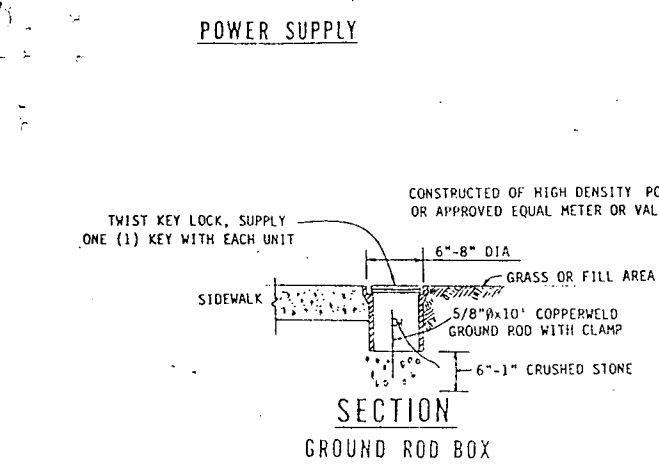
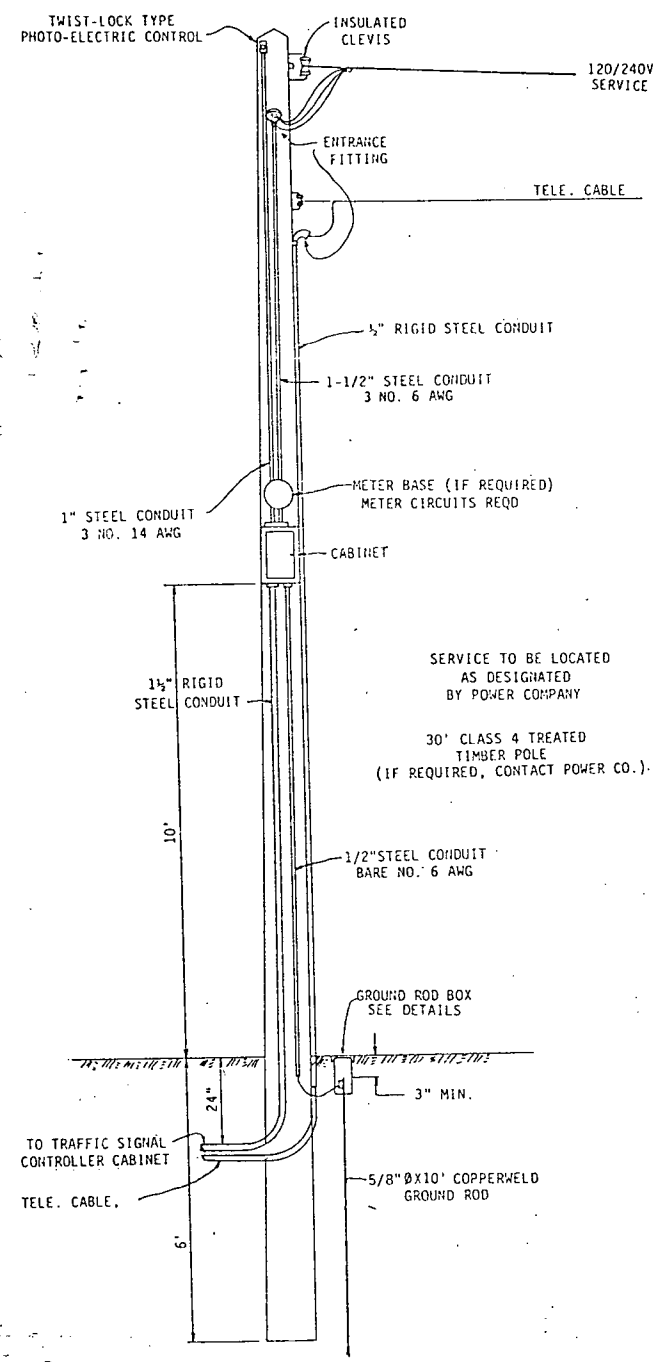
- A. TRUCK AND COMPRESSOR
- B. CONCRETE SAW AND TRAILER
- C. 3/8" CONCRETE SAW BLADE

**4. LOOP INSTALLATION**

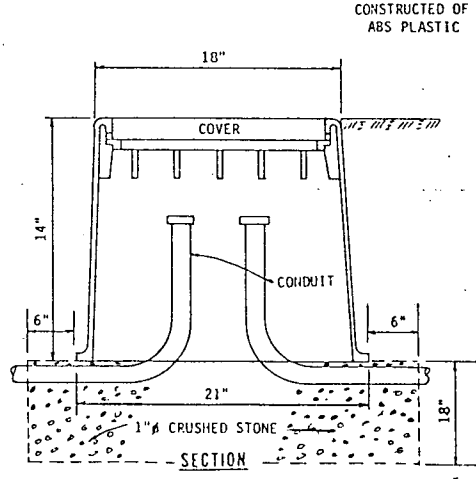
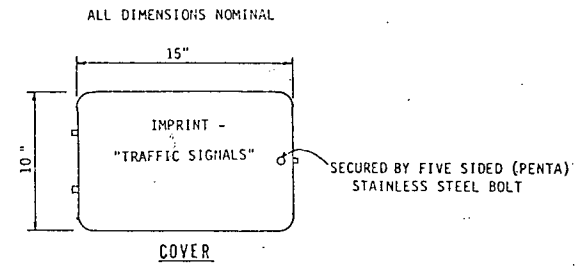
- A. BARRICADE WORK AREA TO ASSURE SAFETY IN THE WORKING AREA AND IN THE MOVEMENT OF VEHICLE TRAFFIC IN COMPLIANCE WITH THE CDOT CONSTRUCTION STANDARDS.
- B. SAWCUT PAVEMENT AS LAID OUT BY THE CITY TRAFFIC ENGINEER OR HIS REPRESENTATIVE. NOTE THE NUMBER OF TURNS FOR THE LOOP MARKED ON THE PAVEMENT. IT WILL BE NOTED "1T" OR "3T", ETC.
- C. SAWCUT SHALL BE THOROUGHLY CLEANED WITH THE COMPRESSOR AND SCREWDRIVER PRIOR TO INSTALLING THE WIRE. SLOT SHALL BE THOROUGHLY DRIED.
- D. INSTALL WIRE IN CLEANED SLOTS AND LEAVE AT LEAST 3 FEET EXCESS IN PULLBOX. DO NOT PUSH WIRE INTO SLOT WITH A SHARP OR CUTTING TOOL.
- E. LOOP WIRE SHALL NOT BE EXTENDED TO PULLBOX THROUGH CRACKS IN THE CURB NOR WILL A HOLE BE DUG ON THE STREET SIDE OF CURB. SEE LOOP LEAD-IN TO PULLBOX DETAIL.

- F. PERFORM LOOP CHECK. SEE PARAGRAPH 5.
  - G. SEAL LOOPS IN PAVEMENT WITH PROPERLY PREPARED SEALANT AND FILL IN ANY HOLES DUG ON PULLBOX SIDE.
  - H. INSTALL LEAD-IN IF REQUIRED PER PARAGRAPH 1B.
- 5. LOOP CHECK**
- PRIOR TO SPLICING LOOP TO LOOP LEAD-IN, PERFORM THE FOLLOWING CHECK:
- A. USING MEGGER, CHECK RESISTANCE OF LOOP TO GROUND. SHOULD CHECK 10 MEGOHMS OR HIGHER. RECORD, AND SUBMIT TO CITY TRAFFIC ENGINEER.
  - B. USING MEGGER, CHECK RESISTANCE OF LOOP. SHOULD CHECK 5 OHMS OR LESS. RECORD.
  - C. USING THE LOOP CHECKER, MEASURE INDUCTANCE AND RECORD.
  - D. ALL READINGS RECORDED SHALL BE DELIVERED TO CITY TRAFFIC ENGINEER.
  - E. SPLICE LOOP TO LOOP LEAD-IN USING PROPER BUTT CONNECTOR AND INSURING A WATER TIGHT SPLICE BY USING ELECTRICAL TAPE.
- 6. THE CITY TRAFFIC ENGINEER'S REPRESENTATIVE SHALL:**
- A. USING MEGGER, CHECK RESISTANCE OF LOOP TO GROUND. SHOULD CHECK 10 MEGOHMS OR HIGHER, RECORD.
  - B. USING MEGGER, CHECK RESISTANCE OF LOOP. SHOULD CHECK 5 OHMS OR LESS, RECORD.
  - C. USING THE LOOP CHECKER, MEASURE INDUCTANCE AND RECORD.
  - D. MAKE REQUIRED TERMINATIONS IN THE CABINET AFTER PERFORMING LOOP CHECKS PERFORMED IN PARAGRAPH 5A, B AND C.
  - E. IF INSTALLED, TUNE DETECTOR AMPLIFIER AND ASSURE PROPER OPERATION.

- F. LOOP LEAD-IN SHALL BE MARKED BOTH AT THE LOOP SPLICE AND IN THE CABINET (AT EACH END OF LEAD-IN) WITH IDENTIFYING TIWRAPS FOR EACH LOOP AS FOLLOWS. TAPE COLORS LISTED ARE STANDARD AND MAY APPEAR ON DETECTOR LEAD CABLES.
- |                                 | TAPE COLORS |
|---------------------------------|-------------|
| (1) NORTHBOUND - NB             | BLUE        |
| (2) NORTHBOUND LEFT TURN - NBLT | BLUE/BLUE   |
| (3) SOUTHBOUND - SB             | RED         |
| (4) SOUTHBOUND LEFT TURN - SBLT | RED/RED     |
| (5) EASTBOUND - EB              | BLACK       |
| (6) EASTBOUND LEFT TURN - EBLT  | BLACK/BLACK |
| (7) WESTBOUND - WB              | BROWN       |
| (8) WESTBOUND LEFT TURN - WBLT  | BROWN/BROWN |
- G. WHEN LOOPS ARE USED FOR SPECIFIED LANES THEY SHALL BE MARKED WITH DIRECTION PLUS:
- |   | LANE COLORS |
|---|-------------|
| (1) INSIDE (NEAR CENTER LINE) - "I"       | YELLOW      |
| (2) MIDDLE (CENTER LANE OF 3 LANES) - "M" | WHITE       |
| (3) OUTSIDE (NEAR RIGHT HAND CURB) - "O"  | BLUE        |



NOTE: ALL CONDUIT RUNS WITH NO WIRING, PLACE A PULL CORD OF 1/8\"/>



STANDARD SIGNAL CABLE COLOR CODES AND USAGE

THE PURPOSE OF THIS INSTRUCTION IS TO DEVELOP AND CODIFY STANDARD COLOR CODES FOR SIGNAL CABLES AND TO DEVELOP A BASIS FOR SELECTING COLOR CODES FOR NONSTANDARD APPLICATIONS.

THE CABLE PURCHASED BY TRAFFIC ENGINEERING FOR SIGNAL USE ALL COMES UNDER THE IMSA 19-1 1967 SPECIFICATION WHICH SETS INSULATION AND PERFORMANCE STANDARDS AS WELL AS ESTABLISHING A COLOR SEQUENCE. THE CONDUCTOR BASE COLOR IS OVERLAID WITH A TRACER GIVING A DISTINCTIVE AND UNIQUE COLOR COMBINATION FOR EACH CONDUCTOR. THE SIX BASE COLORS ARE BLACK, WHITE, RED, GREEN ORANGE, AND BLUE.

FOR A MULTICONDUCTOR CABLE THESE COLORS ARE REPEATED AS NECESSARY WITH AN APPROPRIATE TRACER COLOR. THE FIRST TWENTY (20) CONDUCTORS ARE:

- |                  |                 |
|------------------|-----------------|
| 1. BLACK         | 11. BLUE/BLACK  |
| 2. WHITE         | 12. BLACK/WHITE |
| 3. RED           | 13. RED/WHITE   |
| 4. GREEN         | 14. GREEN/WHITE |
| 5. ORANGE        | 15. BLUE/WHITE  |
| 6. BLUE          | 16. BLACK/RED   |
| 7. WHITE/BLACK   | 17. WHITE/RED   |
| 8. RED/BLACK     | 18. ORANGE/RED  |
| 9. GREEN/BLACK   | 19. BLUE/RED    |
| 10. ORANGE/BLACK | 20. RED/GREEN   |

AS THE SAME COLORS ARE USED FOR THE TRACERS AS FOR THE BASE COLOR, IT IS OBVIOUS THAT THE TRACER COLOR CANNOT BE APPLIED TO ITS SAME COLOR, WHICH LIMITS A GIVEN TRACER COLOR TO LESS THAN SIX, BUT THE BASE COLORS DO NONE-THELESS REPEAT BY GROUPS OF SIX. THE IMSA SPECIFICATION ALSO SETS A REQUIRED PATTERN FOR CABLE CONSTRUCTION SO THAT FOR ALL MANUFACTURERS, THE CABLE WILL BE SIMILAR. FOR EXAMPLE, IN ALL CABLES, THE BLACK WILL BE AT THE CENTER AND BLACK/WHITE WILL BE ADJACENT TO THE BLUE/BLACK. THIS CAN HELP LOCATE A CONDUCTOR IF THE TRACERS HAVE BEEN RUBBED OFF.

CONDUCTOR COLORS ARE ALWAYS IN EITHER WRITTEN OR SPOKEN COMMUNICATIONS DESCRIBED WITH THE BASE COLOR FIRST, AND THE TRACER COLOR NEXT. IN PRINT, THE (/) IS USUALLY USED TO SEPARATE THE COLORS. VERBALLY, THE PHRASE "WITH A " IS USUALLY INSERTED TO SEPARATE THE COLORS. ABBREVIATED VERSIONS OF THE COLORS ARE OFTEN USED FOR CONVENIENCE, THESE ARE:

- BLACK - BLK
- WHITE - WHT
- RED - RED
- GREEN - GRN
- YELLOW - YEL
- BLUE - BLU

THESE STANDARDIZED THREE-LETTER CODES ARE BORROWED FROM THE AUTO INDUSTRY AND ARE DESIGNED TO ELIMINATE CONFUSION.

FOR THOSE SO INCLINED, ANOTHER METHOD, BORROWED FROM THE ELECTRONICS INDUSTRY, OFFERS EVEN MORE EASE OF IDENTIFICATION. THE STANDARD EIA COLOR CODE IS AS FOLLOWS:

- |          |                 |
|----------|-----------------|
| 0 BLACK  | 5 GREEN         |
| 1 BROWN  | 6 BLUE          |
| 2 RED    | 7 VIOLET        |
| 3 ORANGE | 8 GREY OR SLATE |
| 4 YELLOW | 9 WHITE         |

USING THIS SYSTEM, THE FIRST TWENTY (20) COLORS ARE:

- |   |     |     |     |
|---|-----|-----|-----|
| 0 | 6   | 6/0 | 0/2 |
| 9 | 9/0 | 0/9 | 9/2 |
| 2 | 2/0 | 2/9 | 3/2 |
| 5 | 5/0 | 5/9 | 6/2 |
| 3 | 3/0 | 6/9 | 2/5 |

AGAIN, AND AS ALWAYS, THE BASE COLOR MUST BE LISTED BEFORE ANY TRACER COLORS.

THE SIX BASE COLORS WERE SELECTED BY THE IMSA DUE TO THE APPLICABILITY TO TRAFFIC SIGNAL INSTALLATIONS. EACH GROUP OF SIX CONDUCTORS CAN BE ASSIGNED A PHASE AND THE INDIVIDUAL CONDUCTORS IN EACH GROUP WILL GENERALLY BE THE SAME. WHITE IS USUALLY RESERVED FOR THE RETURN (CALLED GROUND, RETURN, COMMON, OR NEUTRAL) CONNECTION. RED, YELLOW, AND GREEN ARE ASSIGNED TO THE VEHICLE SIGNAL FUNCTIONS, AND THE REMAINING BLUE IS FOR THE WALK AND BLACK IS FOR THE DON'T WALK FUNCTION. THIS IS THE APPROACH THE CABLE WAS DESIGNED TO FACILITATE AND IS THE CSTE STANDARD. DEVIATIONS WILL BE DISCUSSED AT LENGTH AT A LATER POINT. THE GROUPS OF SIX ARE ASSIGNED TO EACH PHASE IN ORDER OF PRECEDENCE. 01 WILL THEN BE THE GROUP OF SIX WITH NO TRACERS, 02 WILL USE THE GROUP OF SIX WITH THE FIRST TRACER, THAT IS, BLACK, AND 03 WILL USE THE NEXT TRACER, WHITE. BECAUSE THERE ARE LESS THAN SIX OF EACH TRACER, THE GROUPING OF THE CABLE MUST BE BORNE IN MIND. USING THIS SYSTEM, AN INTERSECTION OF TWO PHASES WITH NONCUTTED PEDS WOULD BE WIRED AS FOLLOWS:

- |              |     |              |         |
|--------------|-----|--------------|---------|
| 01 DONT WALK | BLK | 02 RETURN    | WHT/BLK |
| 01 RETURN    | WHT | 02 RED       | RED/BLK |
| 01 RED       | RED | 02 GREEN     | GRN/BLK |
| 01 GREEN     | GRN | 02 YELLOW    | YEL/BLK |
| 01 YELLOW    | YEL | 02 WALK      | BLU/BLK |
| 01 WALK      | BLU | 02 DONT WALK | BLK/WHT |

WHERE PERMISSIVE TURNS ARE USED, CONDUCTORS WITH BLUE AND BLACK BASE COLORS ARE USUALLY ASSIGNED. PROHIBITIVE TURNS ARE GENERALLY CONSIDERED AS A PHASE AND ARE SO ASSIGNED AN ENTIRE GROUP. A WIRING CONVENTION WILL ENABLE ANYONE TO ENTER A SPLICE WITH REASONABLE ASSURANCE THAT THE OTHERS WILL MATCH. A WIRING CONVENTION IS A MEANS OF ENHANCING EASE OF SPLICING WHILE REDUCING CONFUSION. BECAUSE ANY SUCH CODE CAN BE INTERPRETED IN A NUMBER OF WAYS, IT DOES NOT CANCEL THE NEED FOR THE ELECTRICIANS INVOLVED WITH THE WIRING OF ANY GIVEN INTERSECTION TO CONFER AND AGREE ON A CODING BEFORE BEGINNING.

THE SECOND GOAL OF THIS INSTRUCTION IS TO ESTABLISH A BASIS TO DECIDE ON A SCHEME OF CODING FOR A GIVEN NON-STANDARD INTERSECTION. THIS IS LARGELY DONE ON A BASIS OF EXPERIENCE AND COMMON SENSE. FOLLOWING IS A DISCUSSION, THE GENERAL ASSIGNMENTS OF THE SIX BASE COLORS:

BLACK

GENERALLY, BLACK IS USED FOR DON'T WALK SIGNALS AND FOR THE YELLOW LEFT TURN ARROW. WHEN USED FOR A VEHICLE SIGNAL, IT IS ALMOST ALWAYS USED FOR YELLOW.

WHITE

RESERVED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE FOR THE RETURN OR GROUND, IT IS SOMETIMES USED AS A PED CALL INPUT. WHEN USED AS A PED CALL, THE WHITE WITHOUT A TRACER MUST BE THE RETURN, AND THE TRACERED WHITE THE PED CALL. IF THERE IS ONLY ONE WHITE, IT MUST BE THE RETURN. WHITE IS OCCASIONALLY USED AS A VEHICLE SIGNAL WHERE IT IS USUALLY USED FOR A RED SIGNAL. CSTE STANDARD PRACTICE REQUIRES AS MANY RETURNS AS POSSIBLE, AND IF ANY OTHER SPARES ARE AVAILABLE, WHITE SHOULD BE LEFT FOR THE GROUND. WHITE DOES NOT NECESSARILY HAVE TO BE A GROUND RETURN, BUT ALL RETURNS MUST BE WHITE. ALL NON-GROUND FUNCTIONS ON WHITES WILL BE ON THE TRACERED WHITES.

RED

PRIMARY USE IS FOR THE RED VEHICLE SIGNALS, IF USED FOR A PED SIGNAL IT WILL BE PAIRED WITH GREEN AND WILL BE A DON'T WALK.

GREEN

AGAIN, PRIMARY USE IS FOR THE GREEN VEHICLE SIGNAL BUT IF USED AS A PED, IT IS USUALLY PAIRED WITH THE RED AND WILL OPERATE THE WALK SIGNAL.

YELLOW

NORMAL USAGE IS FOR THE YELLOW VEHICLE SIGNAL. IF IT IS TO BE USED AS A PED, IT SHOULD BE PAIRED WITH THE BLACK AND WILL OPERATE THE DON'T WALK.

BLUE

USUALLY, BLUE IS ASSIGNED TO POWER THE WALK SIGNAL OR IS USED TO OPERATE THE GREEN LEFT TURN ARROW. IF USED FOR A VEHICLE SIGNAL, IT IS USUALLY USED AS A GREEN.

THESE BASE COLORS MAY BE THOUGHT AS BEING ORGANIZED ON A STOP-GO SCALE AS FOLLOWS:

STOP---RED-WHITE-YELLOW-BLACK-BLUE-GREEN---

USING THIS IDEA, IF THREE COLORS ARE AVAILABLE FOR THE OPERATION OF A SIGNAL HEAD, THEIR RELATIVE STOP POWER IS APPARENT, WHICH AUTOMATICALLY ASSIGNS THE RIGHT COLOR TO THE VEHICLE OR PED FUNCTION. SIGNAL FUNCTIONS ARE ASSIGNED FIRST, AND LEFT TURN OR PED FUNCTIONS ARE NEXT. PED CALL INPUTS GENERALLY ARE OF LAST PRIORITY. IT IS BEST IF THE RETURNS ARE ASSIGNED WITH THE VEHICLE FUNCTIONS ENSURING AMPLE CAPACITY AND REDUNDANCY.

# STANDARD M-604-12

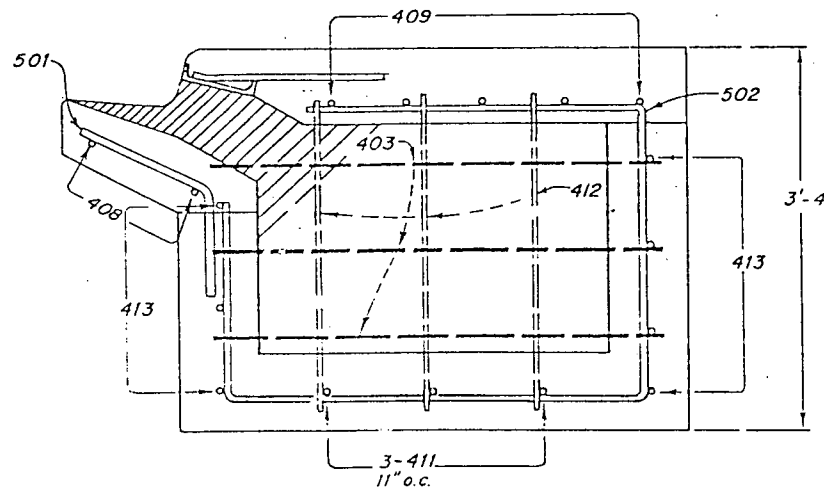
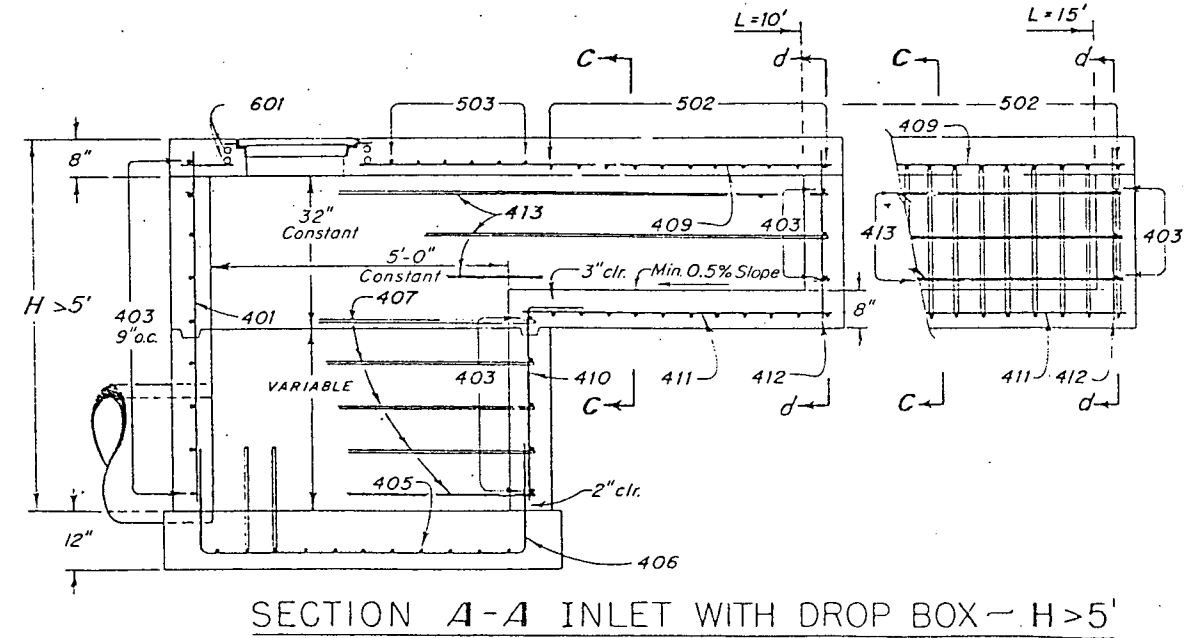
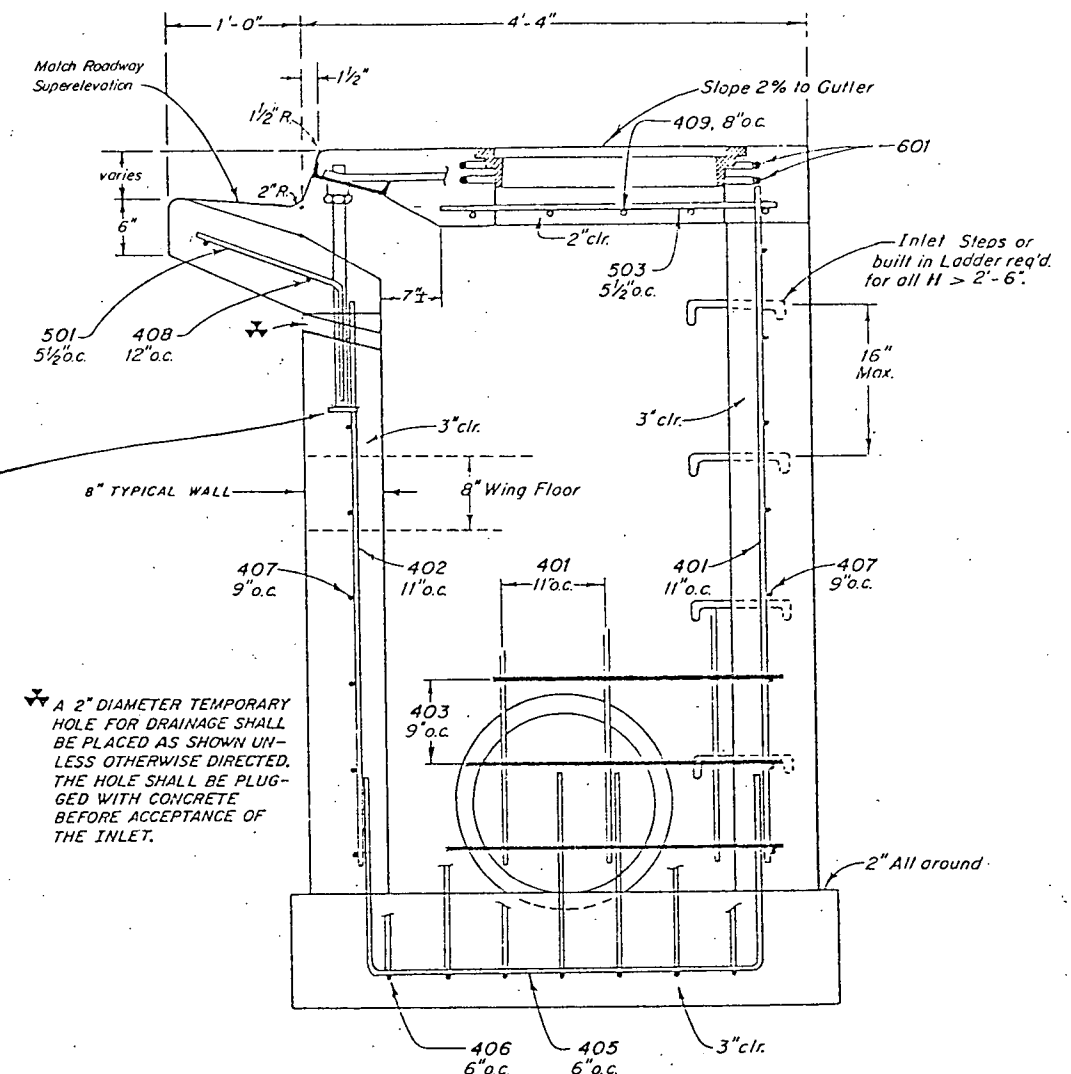
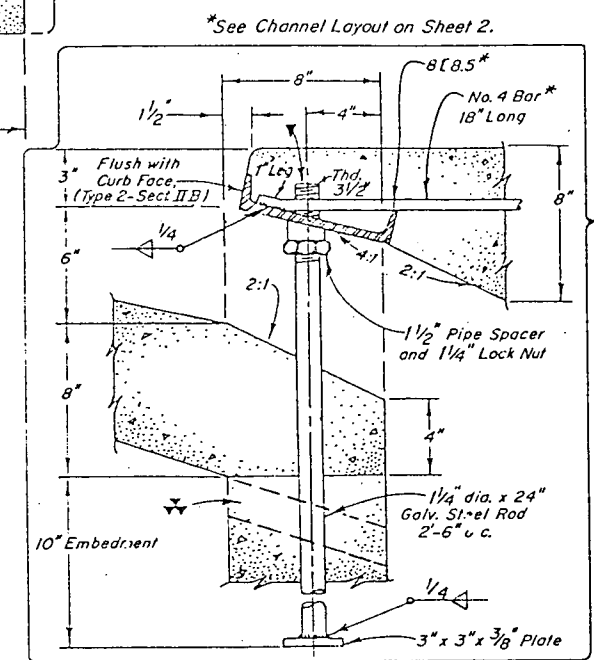
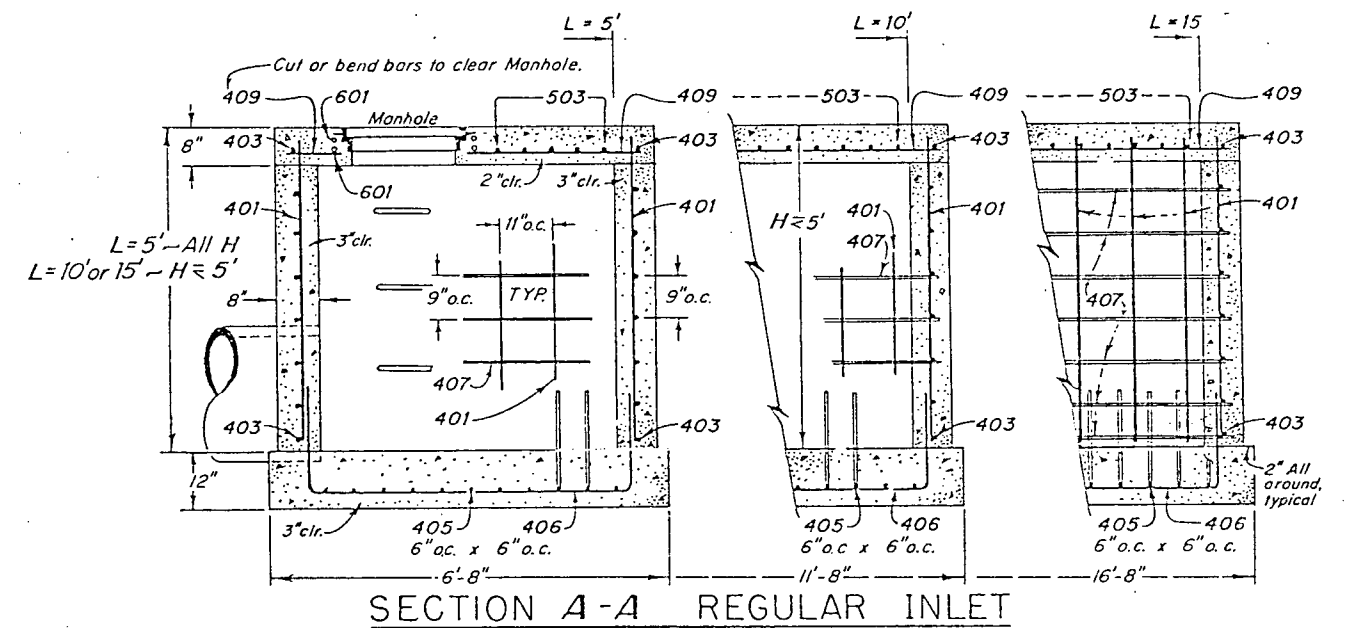
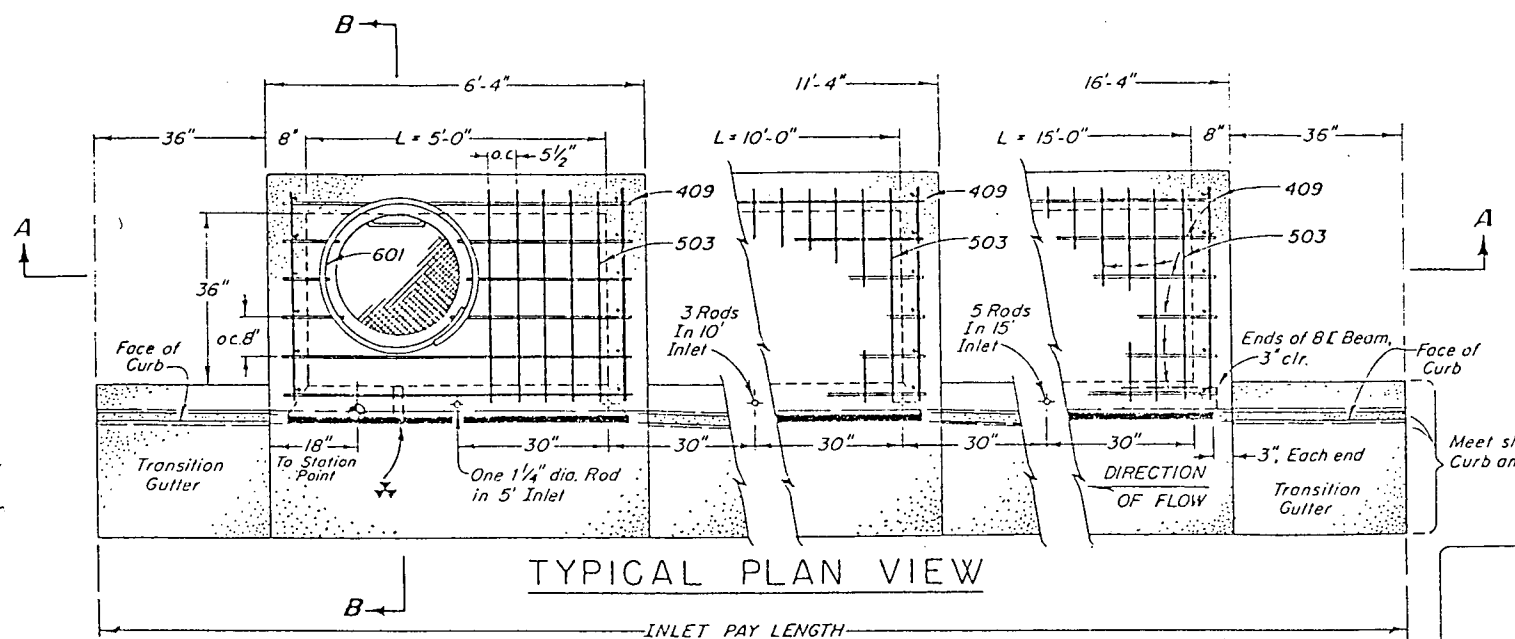
( SHEET 1 OF 2 )  
( JANUARY, 1982 )

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	128	

REVISIONS		
NO REVISIONS	8-17-87	REVISED
		VOID

SPECIAL THIS PROJECT

AS CONSTRUCTED		
NO REVISIONS	8-17-87	REVISED
		VOID



( Dotted Bars are in Section d-d )  
SECTIONS C-C & d-d

SECTION B-B TYPICAL END VIEW

NOTE: MANHOLE RING & COVER, STATION POINT AND OUTFLOW PIPE ARE TO BE LOCATED AT THE SAME END OF THE INLET.

DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO  
DIVISION OF HIGHWAYS

**CURB INLET  
TYPE IR**

Designed by O. B. R. Approved by S. L. Larson  
Made by J. R. B. Ass't. Staff Design Engineer  
Checked by O. L. S. Date: June 9, 1972



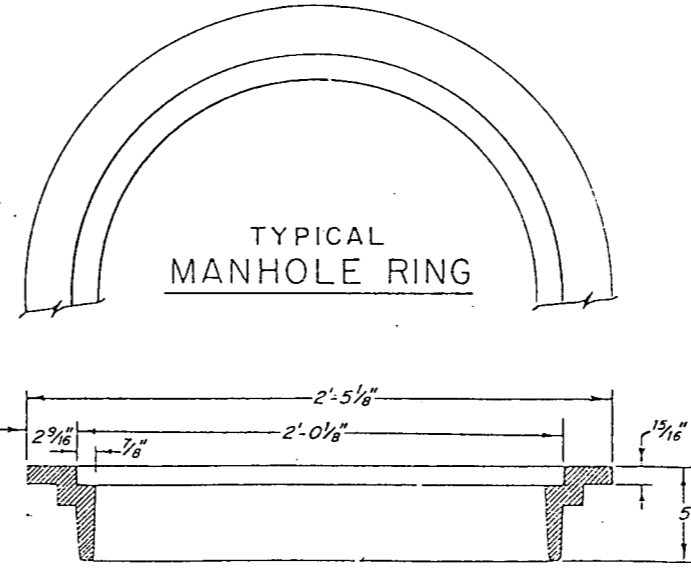
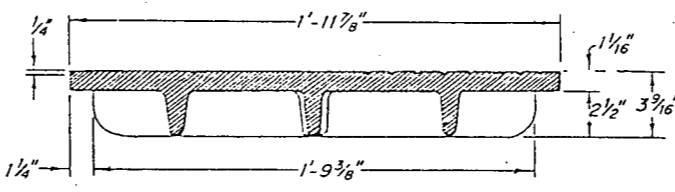
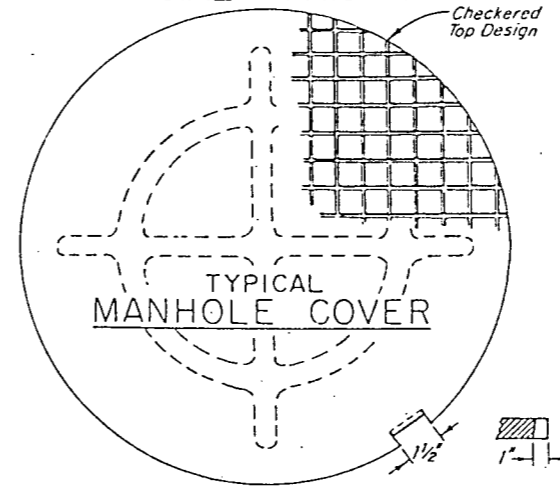
# STANDARD M-604-12

(SHEET 2)  
(JANUARY, 1982)

FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 04-0025-19	129	
REVISIONS				

NOTE: Steel Quantities Not Reduced For Shorter Pan

SPECIAL THIS PROJECT



Approximate Weights:  
Cover = 125 lbs.  
Ring = 135 lbs.  
TOTAL = 260 lbs.

TABLE ONE - BAR LIST FOR CURB INLETS, TYPE R

MARK	DIA in.	o.c. Spacing	TYPE	ALL INLETS		INLETS, H ≥ 5'			INLETS, H > 5'				
				L = 5'		10'		15'		10'		15'	
				No. Req'd.	Length	No. Req'd.	Length	No. Req'd.	Length	No. Req'd.	Length	No. Req'd.	Length
401		11"	II	15	*	21	*	26	*	11	*	11	*
402		11"	II	7	*	13	*	18	*	7	*	7	*
403		9"	II	*	4'-0"	*	4'-0"	*	4'-0"	*	4'-0"	*	4'-0"
405		6"	VI	11	6'-10"	21	6'-10"	31	6'-10"	11	6'-10"	11	6'-10"
406		6"	VIII	7	8'-10"	7	13'-10"	7	18'-10"	7	8'-10"	7	8'-10"
407	1/2"	9"	II	*	5'-10"	*	10'-10"	*	15'-10"	*	5'-10"	*	5'-10"
408		12"	II	3	6'-0"	3	11'-0"	3	16'-0"	3	11'-0"	3	16'-0"
409		8"	II	6	5'-10"	6	10'-10"	6	15'-10"	6	10'-10"	6	15'-10"
410		11"	VII							3	*	3	*
411		11"	II							3	5'-2"	3	10'-2"
412		11"	II							3	2'-9"	3	2'-9"
413		9"	II							7	10'-10"	7	15'-10"
501		5 1/2"	IV	11	3'-4"	22	3'-4"	33	3'-4"	22	3'-4"	33	3'-4"
502	5/8"	5 1/2"	III							11	11'-5"	22	11'-5"
503		5 1/2"	II	5	3'-6"	16	3'-6"	27	3'-6"	6	3'-6"	6	3'-6"
601	3/4"	2 1/2"	V	2	8'-10"	2	8'-10"	2	8'-10"	2	8'-10"	2	8'-10"
8L6.5				1	5'-10"	1	10'-10"	1	15'-10"	1	10'-10"	1	15'-10"
Y				2 Bars, 1 Rod		4 Bars, 3 Rods		8 Bars, 5 Rods		4 Bars, 3 Rods		8 Bars, 5 Rods	

\* Variable, refer to Table TWO.

Ø Include 18" No. 4 Bars (See Channel Layout Detail).

† See Curb Face Assembly on Sheet 1 and Channel Layout Details on this sheet.

REGULAR INLETS

DROP BOX INLETS

TABLE TWO - BARS AND QUANTITIES VARIABLE WITH H

H	Length			No. Req'd. Regular		No. Req'd. Drop Box		L = 5'		L = 10'		L = 15'	
	401	402	410	403	407	403	407	Cu Yd. Conc.	Lb. Steel	Cu Yd. Conc.	Lb. Steel	Cu Yd. Conc.	Lb. Steel
3'-0"	2'-8"	1'-8"		10	7			3.2	285	5.3	497	7.4	706
3'-6"	3'-2"	2'-2"		10	7			3.4	305	5.7	529	7.9	747
4'-0"	3'-8"	2'-8"		12	9			3.7	326	6.0	559	8.4	786
4'-6"	4'-2"	3'-2"		12	9			3.9	334	6.4	571	8.8	803
5'-0"	4'-8"	3'-8"		14	11			4.1	354	6.7	602	9.3	844
5'-6"	5'-2"	4'-2"	3'-5"	16	13	15	6	4.4	375	6.0	607	7.5	840
6'-0"	5'-8"	4'-8"	3'-11"	16	13	16	6	4.6	382	6.2	616	7.7	850
6'-6"	6'-2"	5'-2"	4'-5"	18	15	18	8	4.8	402	6.4	637	7.9	870
7'-0"	6'-8"	5'-8"	4'-11"	20	17	19	10	5.0	423	6.6	654	8.1	887
7'-6"	7'-2"	6'-2"	5'-5"	20	17	20	10	5.3	430	6.9	664	8.4	897
8'-0"	7'-8"	6'-8"	5'-11"	22	19	22	12	5.5	451	7.1	684	8.6	917
8'-6"	8'-2"	7'-2"	6'-5"	24	21	23	14	5.7	471	7.3	702	8.8	934
9'-0"	8'-8"	7'-8"	6'-11"	24	21	24	14	6.0	479	7.6	711	9.1	944
9'-6"	9'-2"	8'-2"	7'-5"	26	23	26	16	6.2	499	7.8	732	9.3	964
10'-0"	9'-8"	8'-8"	7'-11"	28	25	27	18	6.4	520	8.0	749	9.5	982
10'-6"	10'-2"	9'-2"	8'-5"	28	25	28	18	6.7	527	8.3	759	9.8	991
11'-0"	10'-8"	9'-8"	8'-11"	30	27	30	20	6.9	547	8.5	779	10.0	1012

NOTE: For L=5', L=10 and L=15'.

REGULAR INLETS: Total quantities needed are OUTSIDE of the heavy black line.

DROP BOX INLETS: Total quantities needed are INSIDE of the heavy black line.

STEEL WEIGHTS DO NOT INCLUDE STRUCTURAL STEEL.

## GENERAL NOTES

All work shall be done in accordance with the Standard Specifications applicable to the project.

All concrete shall be Class A or B.

Concrete walls shall be formed on both sides and shall be 8" thick.

Inlet Steps shall be as shown on the applicable Division "M" Standard.

Curb Face Assembly shall be galvanized after welding.

Exposed concrete corners shall be beveled to 1/2" face. Curb and Gutter corners shall be finished to match the existing curb and gutter beyond the Transition Gutter.

All reinforcing bars shall be tagged with bar designation and station number.

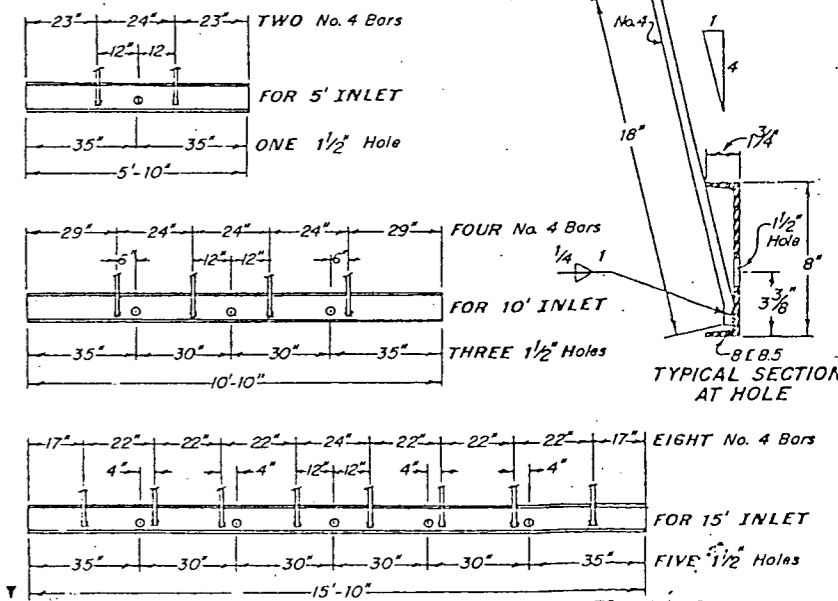
Reinforcing bars shall be deformed and shall be of intermediate grade steel.

Dimensions and weights of Typical Manhole Ring and Cover are nominal.

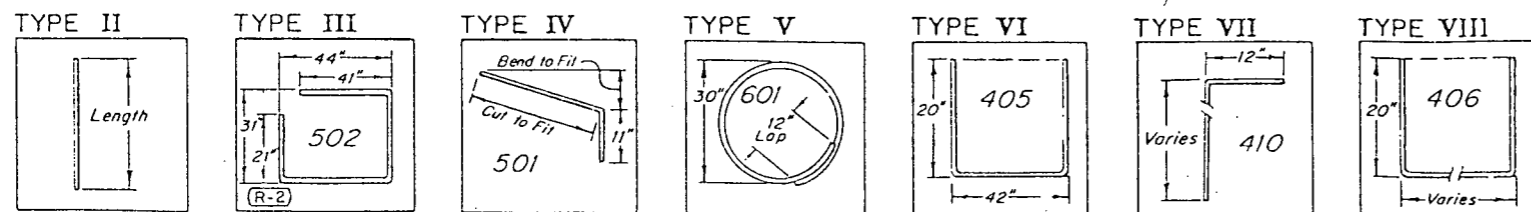
All bars shall be a minimum 2" clear.

Since pipe entries into the inlet are variable, the dimensions shown are typical. Actual dimensions and quantities for concrete and reinforcement shall be as required in the work. Quantities include volumes occupied by pipes.

Structural Steel shall be galvanized and shall conform to the requirements of Section 509.



CHANNEL LAYOUT DETAILS



BAR BENDING DIAGRAMS (Dimensions are Out-to-Out of Bar)

DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO  
DIVISION OF HIGHWAYS  
**CURB INLET  
TYPE R**

Designed by D.B.R. Approved by S.R. Larson  
Made by J.R.B. Ass't. Staff Design Engineer  
Checked by O.L.S. Date: June 9, 1972

TYPICAL ELEVATION  
STEEL POST ASSEMBLY

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

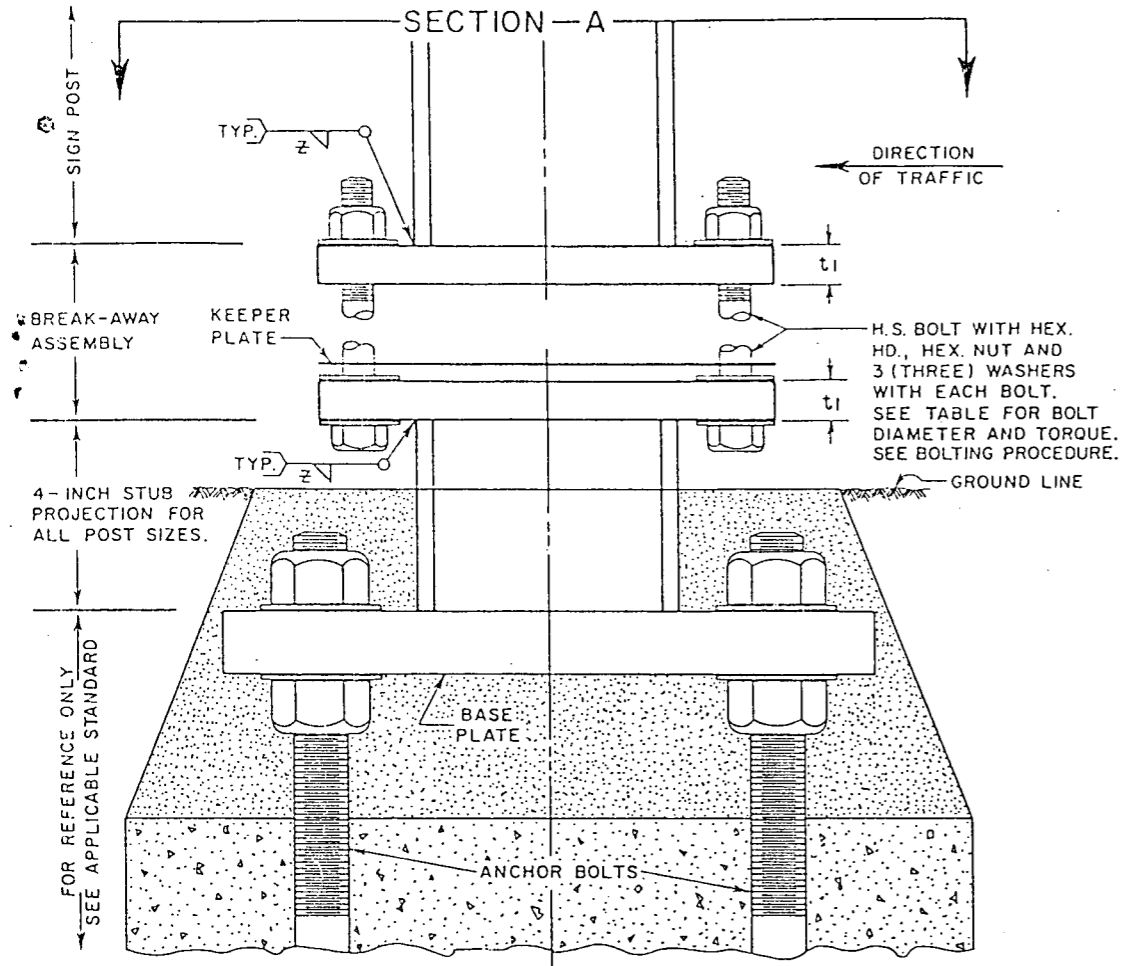
STANDARD S-614-5

(SHEET 1 OF 2 SHEETS)  
JANUARY 1982

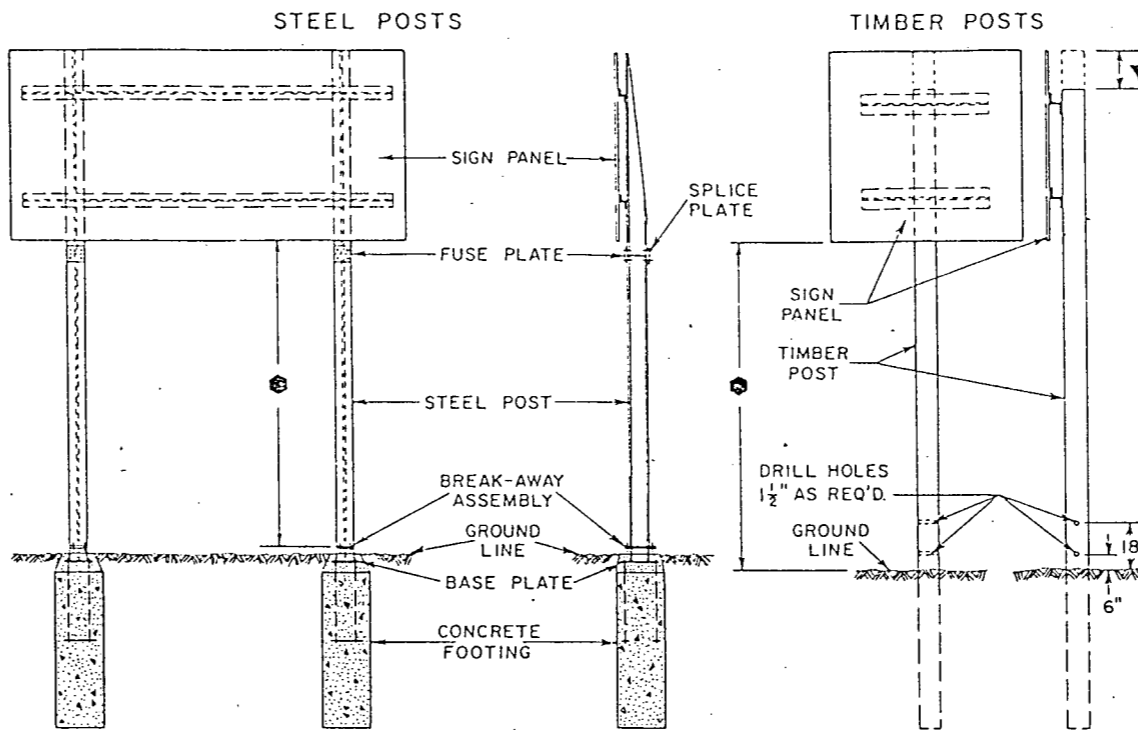
SPECIAL FOR THIS  
PROJECT

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 04-0025-19	130	

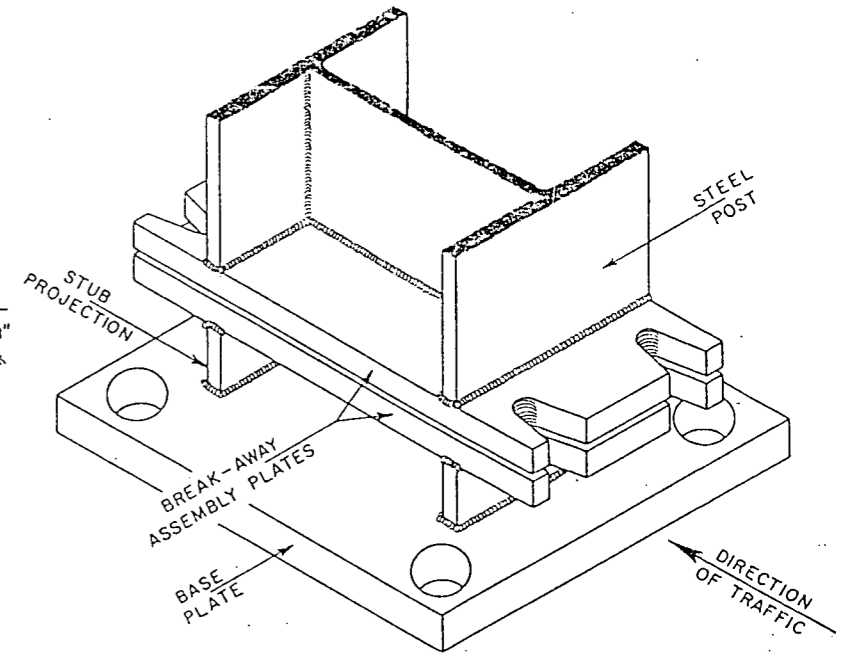
REVISIONS	



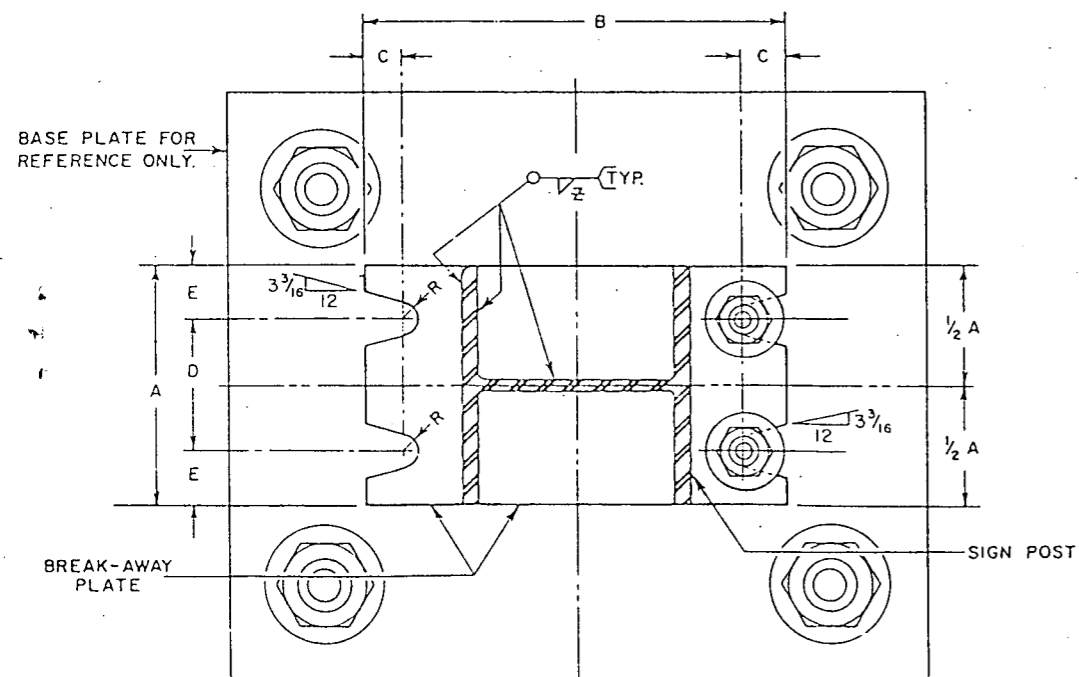
TYPICAL BREAK-AWAY SIGN SUPPORT INSTALLATIONS



TYPICAL PROJECTED VIEW  
STEEL POST ASSEMBLY



TYPICAL SECTION -A-



GENERAL NOTES

- All work shall be done in accordance with the Standard Specifications applicable to the Project.
- Design conforms with AASHTO "Specifications for the Design and Construction of Structural Supports for Highway Signs".
- All structural steel shall conform to ASTM-A36 and Section 509 of the Standard Specifications.
- Steel fuse plates and splice plates shall conform to ASTM-A36.
- All high strength bolts, nuts and washers shall conform to ASTM-A325. Washers used in the Break-Away Plate and Fuse Plate assemblies shall be of sufficient strength to prevent any deflection or "cupping" into the slotted grooves under bolt torquing.
- All bolts other than high strength bolts shall conform to ASTM-A307.
- All bolts, nuts, and washers shall be galvanized as per ASTM-A153 or ASTM-A164.
- All holes except at fuse plate may be drilled or sub-punched and reamed.
- All steel cuts shall preferably be saw cuts; however, flame cutting will be permitted provided all edges are ground. Remove all burrs. Metal shall not project beyond the plane of the plate face.
- A "Keeper Plate" of thin (28-gage) galvanized sheet metal, fabricated to match break-away plate dimensions but with holes rather than slots, shall be used to restrain bolt loosening due to wind vibration.
- High strength bolts in the break-away assembly shall be tightened only to the torque shown in the table. DO NOT OVERTIGHTEN.
- The "STUB POST" and one "BREAK-AWAY PLATE" are considered part of the footing. The other "BREAK-AWAY PLATE" and all nuts, bolts, washers and keeper plate for fastening the break-away plates are considered to be a part of the post.
- Timber posts shall be in accordance with Section 614 of the Standard Specifications as to Size, Alternate Size, Grade, Species, Treatment, and Break-Away Holes.
- For all base plate and footing work see the applicable Standard included in the plans.
- For additional information, refer to "Tabulation of Signs" and "Cross Sections for Class III Signs" included in the plans.
- Timber post flush with top of sign panel for direct mount and 3 3/8" minimum above bolt for backing zee mount.
- Minimum post length from bottom of sign panel to break-away assembly or ground line shall be 7' (in no case shall a backing zee be placed below the fuse plates).

BREAK-AWAY PLATE DATA TABLE

DIMENSION	BOLT SIZE AND TORQUE	A	B	C	D	E	t1	WELD Z	R	STUB POST LENGTH
W 12 x 40	7/8" $\phi$ x 3 3/4" 1,135 In. Lb.	8"	19 1/4"	1 5/8"	4"	2"	1/4"	3/8"	13/32"	0'-4"
W 12 x 35		6 1/2"	17"	7/8"	3 1/2"	1 1/2"	1"	3/16"	13/32"	0'-4"
W 10 x 26	3/4" $\phi$ x 3 1/2" 750 In. Lb.	5 3/4"	14 7/8"	7/8"	3 1/4"	1 1/4"	1"	3/16"	13/32"	0'-4"
W 10 x 22		5 3/4"	14 3/8"	7/8"	3 1/4"	1 1/4"	1"	3/16"	13/32"	0'-4"
W 8 x 21		5 1/4"	12 3/8"	7/8"	2 3/4"	1 1/4"	1"	3/16"	13/32"	0'-4"
W 8 x 18		5 1/4"	12"	3/4"	3"	1 1/8"	3/4"	1/4"	11/32"	0'-4"
W 6 x 15	3/8" $\phi$ x 2 3/4" 450 In. Lb.	6"	10"	3/4"	3 3/4"	1 1/8"	3/4"	1/4"	11/32"	0'-4"
W 6 x 12		5"	10"	3/4"	2 3/4"	1 1/8"	3/4"	1/4"	11/32"	0'-4"

BOLTING PROCEDURE FOR  
BREAK-AWAY PLATE ASSEMBLY

- Assemble post to stub with bolts - one flat washer on each bolt top and bottom, and one flat washer and the keeper plate between the break-away plates.
- Tighten all bolts to a "snug tight" condition with a 12" to 15" wrench to bed washers and to clean bolt threads, then loosen each bolt in turn and retighten in a systematic order to the prescribed torque. (See Break-Away Plate Data Table)
- Burr threads at junction with nut to prevent nut loosening.

DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO  
DIVISION OF HIGHWAYS  
BREAK-AWAY SIGN  
SUPPORT DETAILS  
FOR GROUND SIGNS

Designed By: J. J. B. Staff Traffic E.  
Made By: F. J. B. Safety Projects Engineer  
Checked By: J. E. M. Date: January, 1980

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

# STANDARD S-614-5

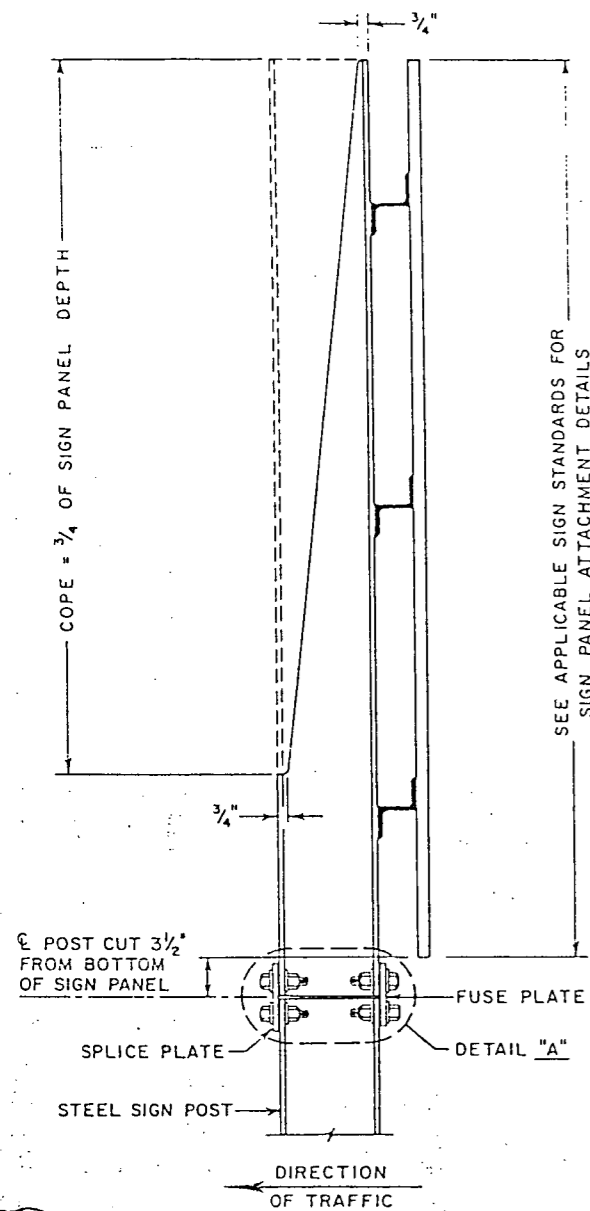
(SHEET 2 OF 2 SHEETS)  
 JANUARY 1982

SPECIAL FOR THIS  
 PROJECT

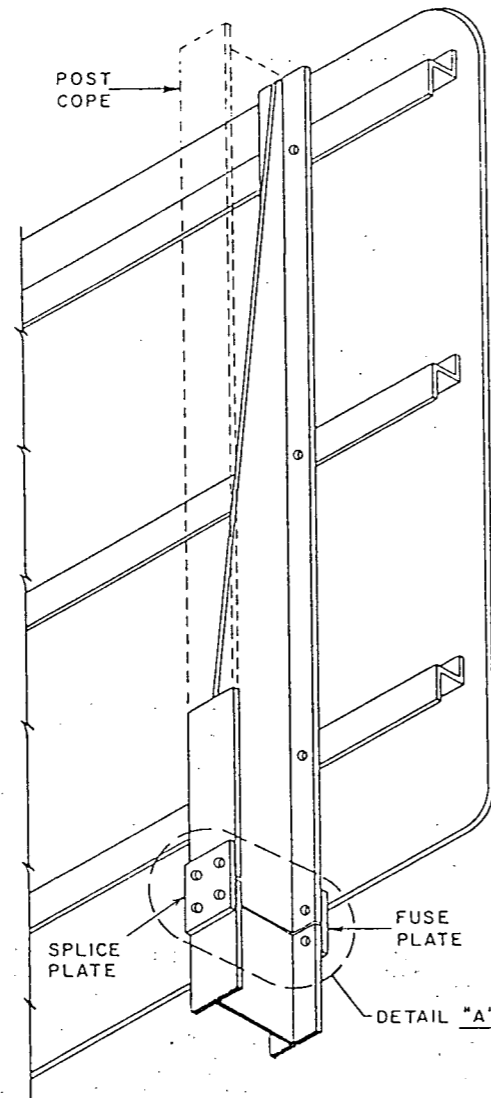
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VIII	COLORADO	CC 04-0025-19	131	

REVISIONS		

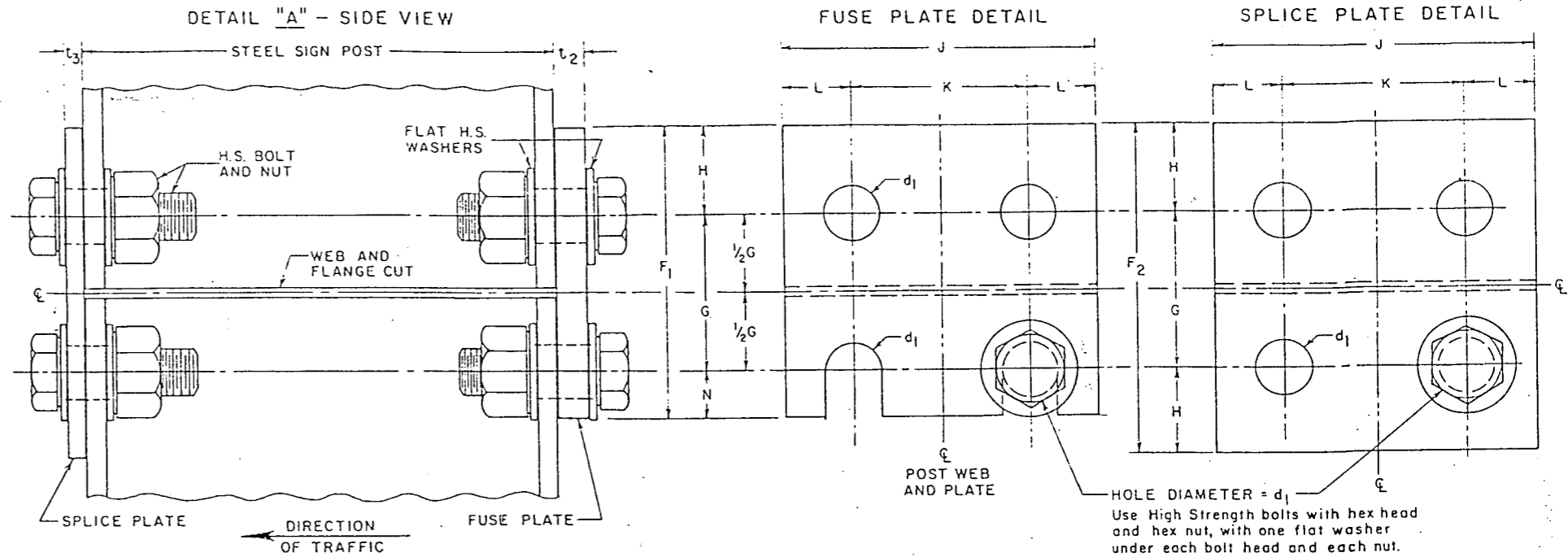
TYPICAL SIDE VIEW  
 FUSE PLATE AND POST COPE



TYPICAL PROJECTED VIEW  
 FUSE PLATE AND POST COPE



TYPICAL FUSE AND SPLICE PLATE HINGE DETAILS



FUSE AND SPLICE PLATE HINGE DATA TABLE

SIZE	F <sub>1</sub>	F <sub>2</sub>	G	H	J	K	L	N	d <sub>1</sub>	t <sub>2</sub>	t <sub>3</sub>	BOLT SIZE	MINIMUM RESIDUAL BOLT TENSION	FABRICATION NOTES
W 12 x 40	6"	6 3/4"	3 1/4"	1 3/4"	8"	4"	2"	1"	15/16"	5/8"	7/16"	7/8" x 2 1/2"	36,050 LBS.	Fuse plate and its post flange holes shall be drilled. Install fuse plate with the notches toward the base of the post. <b>IMPORTANT</b> —All fuse plate hinge bolts shall be tightened in the shop following a method approved by the Engineer. Tightening shall be to such a degree as to obtain the minimum residual tension in each of the bolts. Burr threads at junction with nut to prevent nut loosening.
W 12 x 35	5 3/8"	6"	3"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	7/8"	15/16"	9/16"	7/16"	7/8" x 2 1/2"	36,050 LBS.	
W 10 x 26	5 3/8"	6"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	15/16"	5/16"	7/16"	7/8" x 2 1/2"	36,050 LBS.	
W 10 x 22	5 3/8"	6"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	15/16"	9/16"	3/8"	7/8" x 2 1/4"	36,050 LBS.	
W 8 x 21	4 7/8"	5 1/2"	2 1/2"	1 1/2"	5 1/4"	2 3/4"	1 1/4"	7/8"	15/16"	9/16"	3/8"	7/8" x 2 1/4"	36,050 LBS.	
W 8 x 18	4 1/2"	5"	2 1/2"	1 1/4"	5 1/4"	2 3/4"	1 1/4"	3/4"	13/16"	1/2"	3/8"	3/4" x 2"	28,400 LBS.	
W 6 x 15	4 1/2"	5"	2 1/2"	1 1/4"	6"	3 1/2"	1 1/4"	3/4"	13/16"	1/2"	1/4"	3/4" x 1 3/4"	28,400 LBS.	
W 6 x 12	3 3/4"	4 1/4"	2"	1 1/8"	4"	2 1/4"	7/8"	3/8"	11/16"	3/8"	1/4"	5/8" x 1 3/4"	19,200 LBS.	

DEPARTMENT OF HIGHWAYS  
 STATE OF COLORADO  
 DIVISION OF HIGHWAYS  
 BREAK-AWAY SIGN  
 SUPPORT DETAILS  
 FOR GROUND SIGNS

Designed By: J. J. B. Staff Traffic &  
 Made By: F. J. B. Safety Projects Engineer  
 Checked By: J. E. M. Date: January, 19 80