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- M-46-A Rev.
- M-12-D 13
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- M-27-C
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- M-2-EM
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COLORADO DEPARTMENT OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT NO. F.I. 002-2 (25) UNIT 2 STATE HIGHWAY NO. 1 EL PASO COUNTY

SCALES OF ORIGINAL TRACINGS

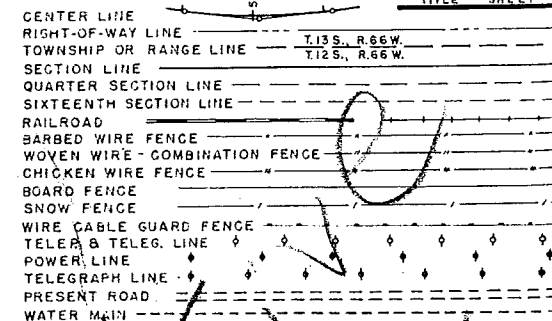
ON PLAN 1" = 100 FT.
ON PROFILE 1" = 100 FT. HORIZONTAL
1" = 10 FT. VERTICAL
GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD
GROSS LENGTH OF PROJECT 21,662.3 feet = 4.103 miles
NET LENGTH OF PROJECT

2,022502

FED. ROAD DIV. NO.	DIST.	PROJECT NO.	SHEET NO.
9	COLO.	F.I. 002-2 (25) Unit 2	1

Rev. 12-11-53, For Current "M" Signs, J.C.R.
Rev. 1-12-54, Added Signing & Striping Sheet to Index, J.C.
Rev. 12-30-58, Added Note on Construction, R.M.

CONVENTIONAL SIGNS

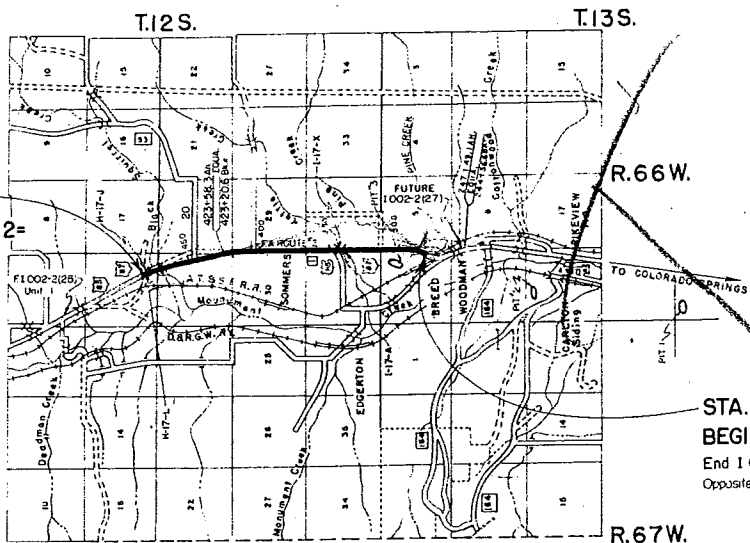


NOTE: This Project re-constructed on New Alignment by the Department of the Air Force - Sta. 284+00 to Sta. 425+28.66 Bk. = 426+28.16 Ah. (Dept. Project No. AW 23-07-00). Access controlled by Air Force.

TABULATION OF LENGTH & DESIGN DATA

STATION	ROADWAY		BRIDGES	
	48' WIDE DIVIDED LIN. FT.	24' WIDE LIN. FT.	LIN. FT.	LOADING
275+00 Begin F.I. 002-2 (25) Unit 2				
+1 F.I. 002-2 (27) (Future Construction) - Opposite Sta. 276+21 of F.A.P. 116-C				
299+65	2,465.0			
320+00		2,035.0		
+345+98.8 Bridges	2,598.8		142.4	H-20S16-44
+347+41.2	408.8			
351+50		5,600.0		
407+50	1,570.6			
423+20.6 Bk. Equo.	6,008.2			
423+58.3 Ah.				
+483+66.5 Bridges	729.8		103.7	H-20S16-44
+484+70.2				
492+00 End F.I. 002-2 (25) Unit 2				
Begin F.I. 002-2 (25) Unit 1				
TOTALS	13,781.2	7,635.0	246.1	
SUMMARY		LIN. FT.	MILES	
F.I. 002-2 (25) Unit 2, 24' Roadway		7,635.0	1.446	
F.I. 002-2 (25) Unit 2, 48' Roadway		13,781.2	2.610	
F.I. 002-2 (25) Unit 2, Bridges		246.1	0.047	
TOTALS		21,662.3	4.103	
DESIGN DATA				
Maximum Degree of Curve	2°			
Maximum Grade	4%			

STA. 492+00
END F.I. 002-2 (25) Unit 2 =
Begin F.I. 002-2 (25) Unit 1



STA. 275+00
BEGIN F.I. 002-2 (25) Unit 2 =
End F.I. 002-2 (27) (Future Construction) - Opposite Sta. 276+21 of F.A.P. 116-C

NOTE: It is recommended that bidders on this project go over the plan details with one of the following field representatives of this Department:
J.A. Simonson - Construction Engineer, Pueblo, Colo.
D.B. Mitchell - Resident Engineer, Colorado Springs, Colo.

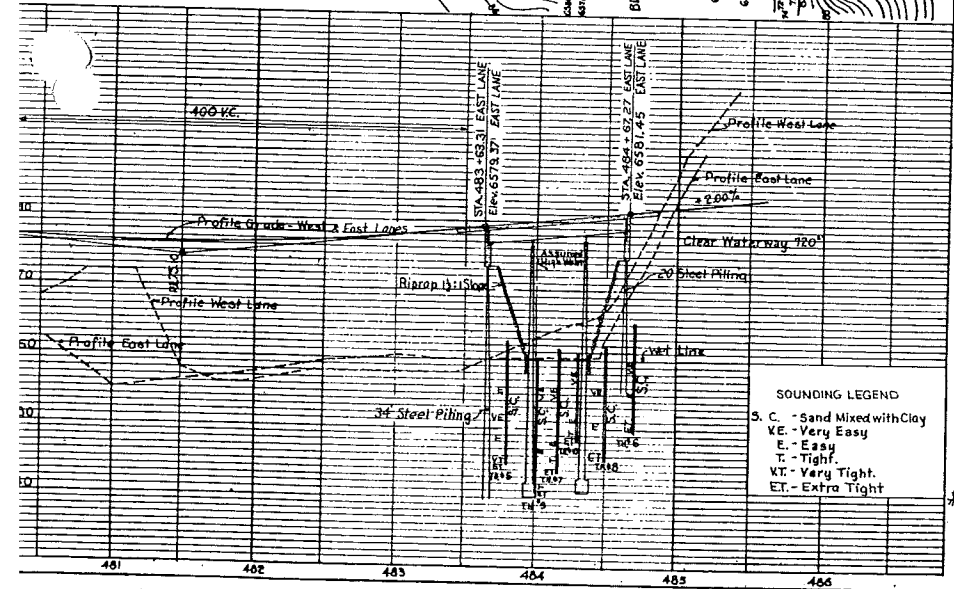
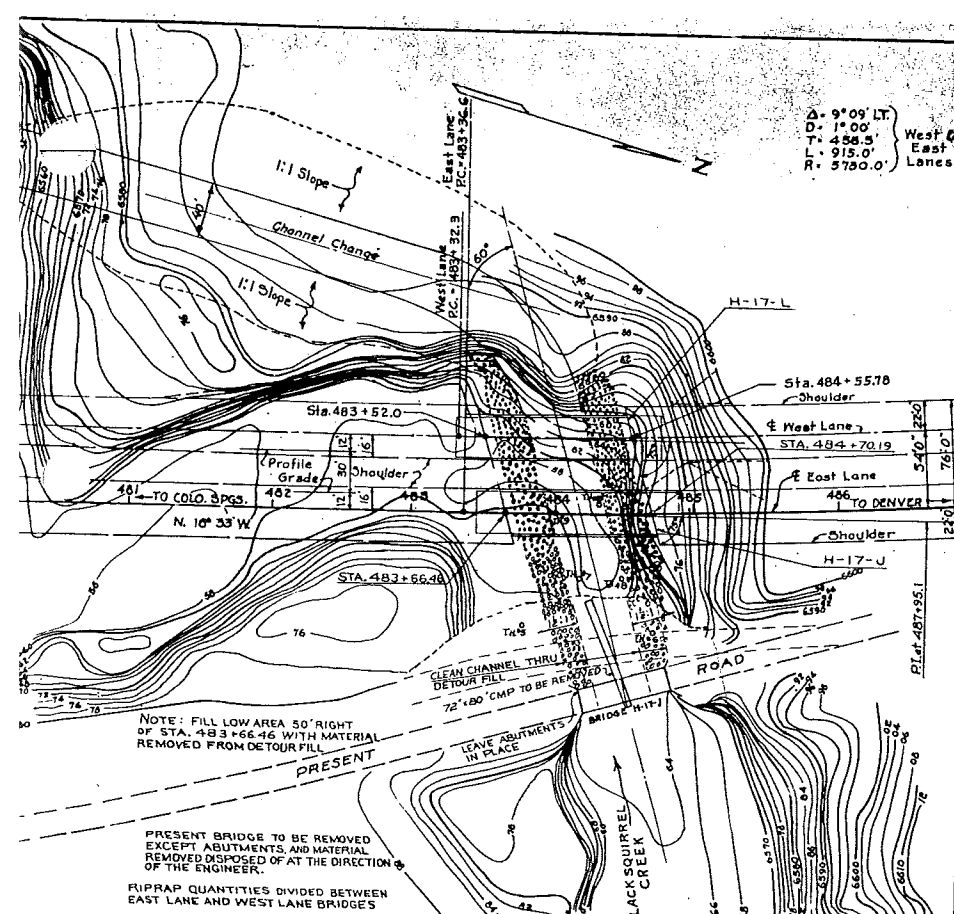
11-12-53

COLORADO
DEPARTMENT OF HIGHWAYS

APPROVED: *[Signature]*
CHIEF ENGINEER

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED: _____
DISTRICT ENGINEER



BAR LISTS - SUPERSTRUCTURE, ABUTMENTS, PIERS L.W.F. J.W.B. M.G.D.

MARK	SIZE	LENGTH	TYPE	LOC. NO.	NO. REQ'D.	NO. REQ'D.	NO. REQ'D.	NO. REQ'D.
401	1/2"	31'-11"	Str.	Abut. No. 1	71			
402	1/2"	37'-6"	Str.	Pier No. 1	81			
403	1/2"	50'-11"	Str.	Abut. No. 2	81			
404	1/2"	32'-3"	Str.	Pier No. 2	10			
405	1/2"	4'-2"	III		44			
406	1/2"	3'-6"	Str.		4		4	8'-11"
407	1/2"	3'-6"	Str.		4			
408	1/2"	4'-6"	Str.		4			
409	1/2"	9'-2"	V		9			
410	1/2"	8'-8"	V		1			4'-3" 0"
411	1/2"	9'-2"	V		1			4'-0" 0"
412	1/2"	6'-2"	V		1			4'-3" 0"
413	1/2"	3'-8"	V		36			2'-9" 0"
414	1/2"	10'-8"	III		43			2'-4" 0"
415	1/2"	6'-10"	III		1			3'-6" 0"
416	1/2"	7'-8"	V		1			3'-6" 0"
417	1/2"	17'-0"	III		1			2'-9" 0"
418	1/2"	12'-0"	III		1			2'-10" 0"
420	1/2"	42'-8"	Str.		1			
421	1/2"	44'-6"	Str.		1			
422	1/2"	6'-2"	Str.		1			
423	1/2"	8'-0"	Str.		4			
424	1/2"	33'-0"	Str.		1			
425	1/2"	15'-9"	Str.		31			
426	1/2"	8'-2"	V		32			5'-9" 0"
427	1/2"	11'-2"	V		13			5'-3" 0"
428	1/2"	10'-8"	V		1			5'-8" 0"
431	1/2"	19'-6"	Str.		30	30		5'-8" 0"
432	1/2"	21'-8"	Str.		24	24		
433	1/2"	33'-8"	Str.		2	2		
434	1/2"	12'-11"	III		4	4		
435	1/2"	7'-2"	III		1 ea.	1 ea.		
436	1/2"	11'-8"	III		1 ea.	1 ea.		
442	1/2"	0'-0"						2'-3" 0"
443	1/2"	0'-0"						2'-3" 0"
490	1/2"	12'-6"			1 ea.	1 ea.		2'-10" 0"
491	1/2"	13'-7"	VII		1	1		2'-10" 0"
492	1/2"	13'-3"	VII		1	1		2'-11" 0"
501	1/2"	34'-7"	Str.		82			
502	1/2"	34'-7"	Str.		82			
503	1/2"	35'-11"	III		61			
504	1/2"	31'-11"	IV		44			
507	1/2"	23'-3"	Str.		2			2'-9" 0"
508	1/2"	2'-0"	Str.		31			31
515	1/2"	16'-0"	III		39	39		3'-0" 0"
516	1/2"	6'-6"	STR		32	32		
701	1/2"	42'-8"	STR		2			2
702	1/2"	46'-0"	STR		1			1
901	1/2"	42'-8"	STR		2			2
1002	1/2"	34'-6"	STR		12	12		
1003	1/2"	31'-0"	STR		1	1		
1004	1/2"	20'-0"	STR		3	3		
1101	1/2"	33'-8"	STR		10	10		

BAR LIST - 2 APPROACH SLABS L.W.F. J.W.B. M.G.D.

MARK	SIZE	LENGTH	TYPE	NO. REQ'D.
336	1/2"	29'-6"	Str.	34
337	1/2"	26'-0"	Str.	2 ea.
343	1/2"	4'-0"	Str.	2 ea.
344	1/2"	24'-0"	Str.	2 ea.
505	1/2"	2'-0"	Str.	60

BAR SUMMARY ABUT. No. 1 L.W.F. J.W.B. M.G.D.

1002 Lin. Ft. @ 0.668 Lbs./Lin. Ft. = 670 Lbs.
 47 Lin. Ft. @ 1.043 Lbs./Lin. Ft. = 49 Lbs.
 182 Lin. Ft. @ 2.044 Lbs./Lin. Ft. = 270 Lbs.
 65 Lin. Ft. @ 3.400 Lbs./Lin. Ft. = 220 Lbs.
 ± 1% Overrun = 14 Lbs.
 Total = 1230 Lbs.

BAR SUMMARY PIER No. 2 M.G.D. L.W.F. J.W.B.

1025 Lin. Ft. @ 0.668 Lbs./Lin. Ft. = 1219 Lbs.
 598 Lin. Ft. @ 1.043 Lbs./Lin. Ft. = 624 Lbs.
 505 Lin. Ft. @ 2.044 Lbs./Lin. Ft. = 2173 Lbs.
 337 Lin. Ft. @ 3.400 Lbs./Lin. Ft. = 1791 Lbs.
 ± 1% Overrun = 53 Lbs.
 Total = 5860 Lbs.

BAR SUMMARY PIER No. 3 M.G.D. L.W.F. J.W.B.

1025 Lin. Ft. @ 0.668 Lbs./Lin. Ft. = 1219 Lbs.
 598 Lin. Ft. @ 1.043 Lbs./Lin. Ft. = 624 Lbs.
 505 Lin. Ft. @ 2.044 Lbs./Lin. Ft. = 2173 Lbs.
 337 Lin. Ft. @ 3.400 Lbs./Lin. Ft. = 1791 Lbs.
 ± 1% Overrun = 53 Lbs.
 Total = 5860 Lbs.

BAR SUMMARY ABUT. No. 4 M.G.D. L.W.F. J.W.B.

1223 Lin. Ft. @ 0.668 Lbs./Lin. Ft. = 817 Lbs.
 111 Lin. Ft. @ 1.043 Lbs./Lin. Ft. = 116 Lbs.
 132 Lin. Ft. @ 2.044 Lbs./Lin. Ft. = 270 Lbs.
 65 Lin. Ft. @ 3.400 Lbs./Lin. Ft. = 220 Lbs.
 ± 1% Overrun = 18 Lbs.
 Total = 1310 Lbs.

BAR SUMMARY 2 APPR. SLABS L.W.F. J.W.B. M.G.D.

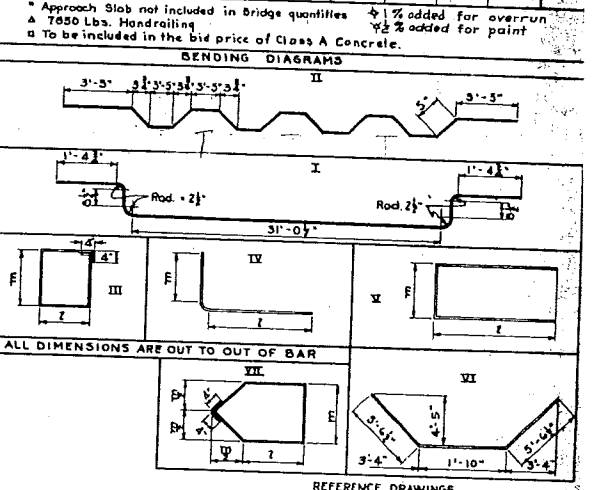
3734 Lin. Ft. @ 0.668 Lbs./Lin. Ft. = 3095 Lbs.
 ± 1% Overrun = 45 Lbs.
 Total = 3940 Lbs.

BAR SUMMARY SUPERSTRUCTURE L.W.F. J.W.B. M.G.D.

5314 Lin. Ft. @ 0.668 Lbs./Lin. Ft. = 5854 Lbs.
 6660 Lin. Ft. @ 1.043 Lbs./Lin. Ft. = 9042 Lbs.
 ± 1% Overrun = 144 Lbs.
 Total = 14760 Lbs.

SUMMARY OF QUANTITIES FOR STR. NO. H-17-L M.G.D. L.W.F. J.W.B. M.G.D.

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
14a	Dry Rock Excav. (Str.)	Cu. Yd.	5.0	5.0	25.00
14b	Dry Common Excav. (Str.)	Cu. Yd.	5.0	5.0	25.00
14c	Wet Rock Excav. (Str.)	Cu. Yd.	25.0	65.0	1625.00
14d	Wet Common Excav. (Str.)	Cu. Yd.	70.0	3.0	210.00
14e	Structure Backfill (Class)	Cu. Yd.	82.0	3.0	246.00
14f	Mechanical Tamping	Hr.	8	15.0	120.00
46a	Class 'A' Concrete	Cu. Yd.	94.6	13.2	1248.72
47	Reinforcing Steel	Lb.	14760	46.8	686712.00
48a	Structural Steel	Lb.	5860	181.0	1060660.00
49a	Steel Piling (O.P.E. 42")	Lin. Ft.	64560	565	36472800.00
49b	Riprap	Cu. Yd.	204	180	36720.00
50a	Drain Pipe - 4" x 2'-0"	Each	5	220	1100.00
60	Drilling Holes to				
100	Drill Hole	100			100.00
110	Removal of Portions of Bridge	L.S.			55.00
111	Remove 72" x 80" C.M.P.	L.S.			5.00
112	Station Yard Overhaul	Sta. Yd.			2000.00
113	Yard Mile Overhaul	Yd. Mi.			600.00
114	EAPN JOINT MAT'L. (TYPE LAASHO M-153-53)	SQ. FT.	75		75.00



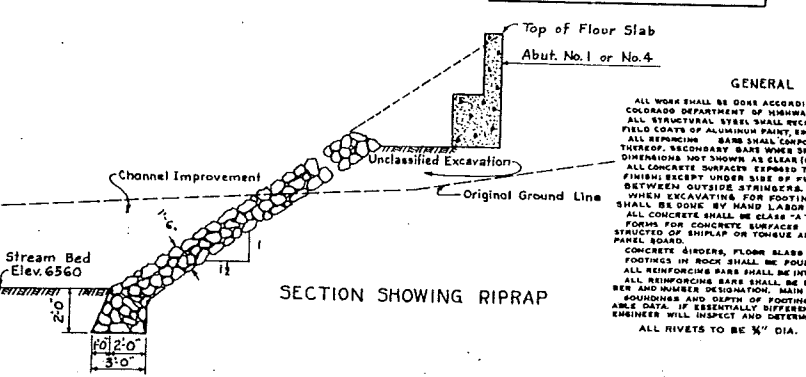
REFERENCE DRAWINGS
 Sheet 21 Details Superstructure
 Sheet 22 Details Exp. Device - Splice, Appr. Slabs, Mechanical Tamping
 Sheet 23 Details Abutments No. 1 & No. 4, Handrail, Bearings
 Sheet 24 Detail Piers No. 2 & No. 3

LOADING DATA.
 LIVE LOAD - A, A, H, O, H 20-216-44
 DEAD LOAD - AS PER 118 PER 20, 21
 ADDITIONAL WEARING SURFACE WHICH INCLUDES 1 1/2" CONC. MONOLITHIC WEARING SURFACE SHOWN

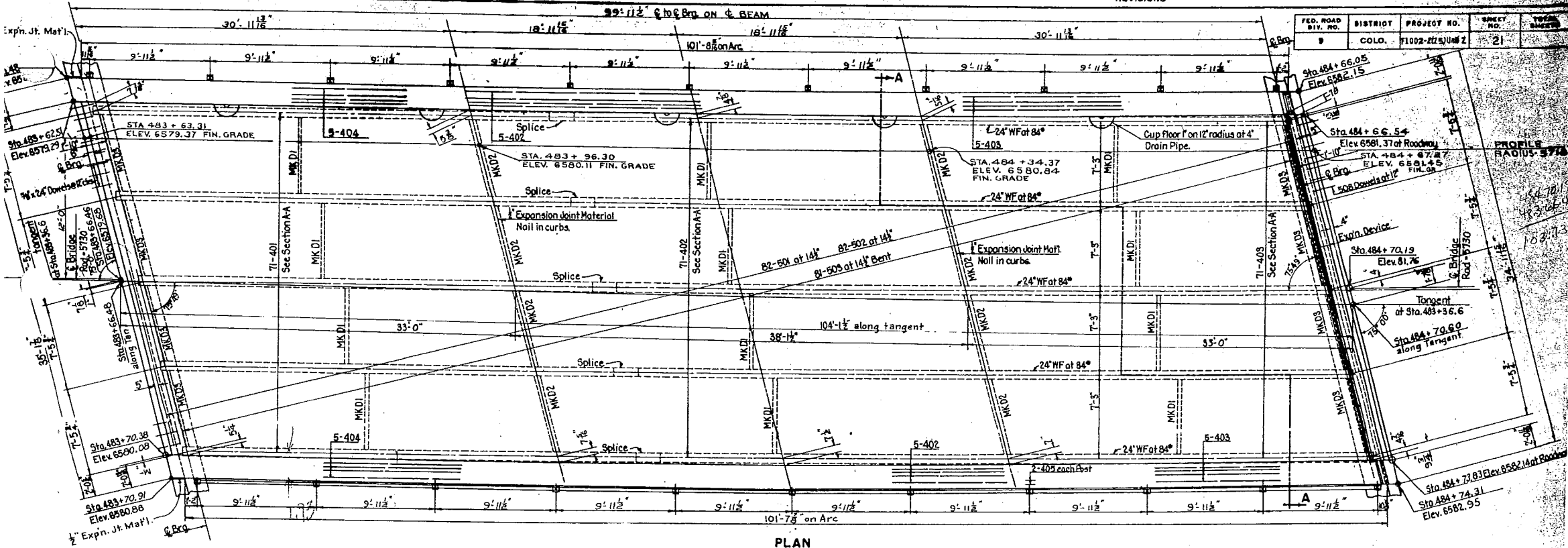
DESIGNING DATA.
 A.A.S. NO. 1955 UNIT STRESS, EXCEPT AS NOTED.
 E = 1000 lbs. per sq. in.
 (Structural) f' = 18000 lbs. per sq. in.
 (Reinforcing) f' = 20000 lbs. per sq. in.
 n = 10

COLORADO DEPARTMENT OF HIGHWAYS
 3 SPAN (31'-30'-31') CONTINUOUS CONCRETE SLAB & I BEAM
 LAYOUT - GENERAL NOTES - BAR LISTS - SUMMARY OF QUANTITIES

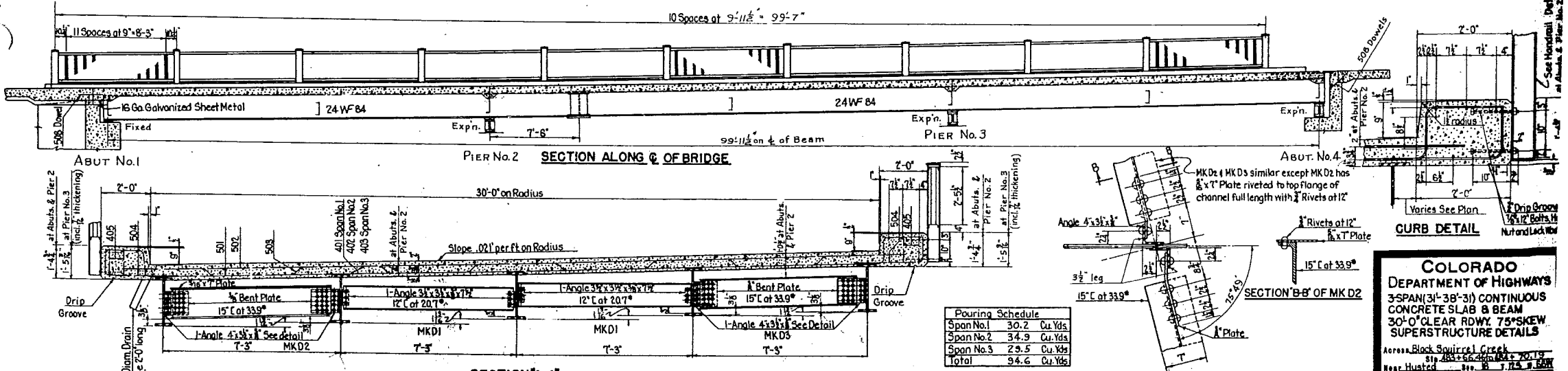
Approved by E.F.S. *E.F.S.*
 Made by W.L.P. *W.L.P.*
 Checked by *[Signature]*
 Date: *Apr 12, 1928*



FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	F1002-21(5)UM 2	21	



PLAN



SECTION A-A

SECTION B-B OF MK D2

COLORADO DEPARTMENT OF HIGHWAYS
 3 SPAN (31'-38'-31) CONTINUOUS CONCRETE SLAB & BEAM
 30'-0" CLEAR RDWY 75° SKEW
 SUPERSTRUCTURE DETAILS

Address: Black Squire Creek
 Sta. 483+66.20 to Sta. 484+74.31
 Near Husted, Colo. T. 125 S. R. 60W

Designed by E.F.S. Approved by *[Signature]*
 Made by W.L.P. Bridge Engineer
 Checked by *[Signature]* Date: Aug. 10, 1938

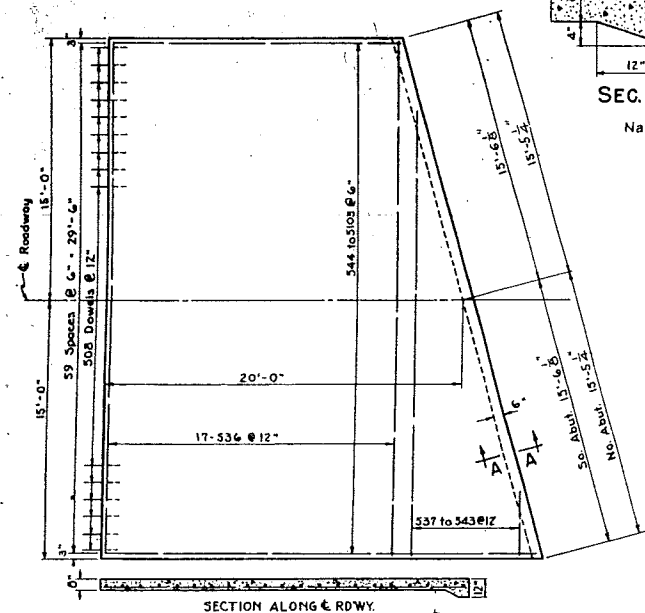
Pouring Schedule	
Span No. 1	30.2 Cu Yds
Span No. 2	34.9 Cu Yds
Span No. 3	29.5 Cu Yds
Total	94.6 Cu Yds

All bar dimensions to @ of bar unless marked (CL) clear.

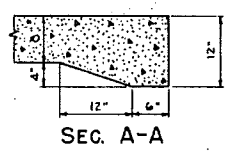
DETAIL CONNECTION MK D2 & MK D3

STRUCTURE NO. H-17-J

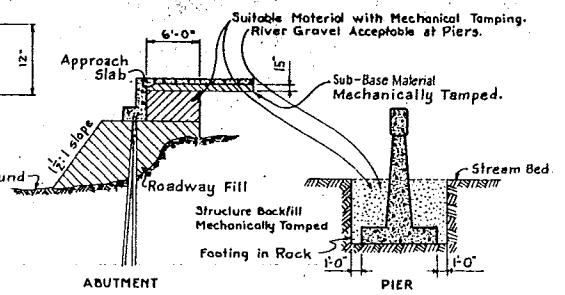
FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.
8	COLO.	F1002-R (25) Unit 2



SECTION ALONG & RDWY.
APPROACH SLABS
No. & So. ABUTMENTS

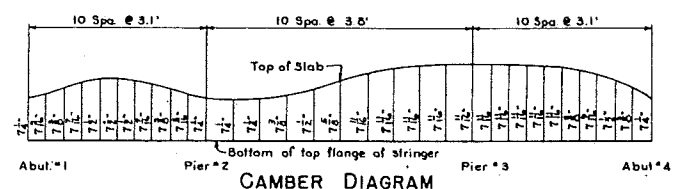


SEC. A-A

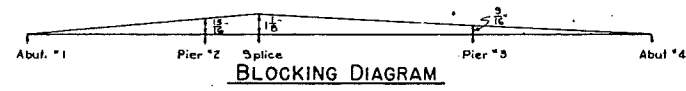


All material that is to be mechanically tamped, shall be placed in horizontal layers not more than 6 inches in depth and tamped before next layer is placed. Rolling equipment shall not be used within 6 ft. of walls.

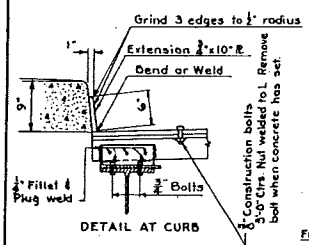
STRUCTURE BACKFILL & MECHANICAL TAMPING DIAGRAMS



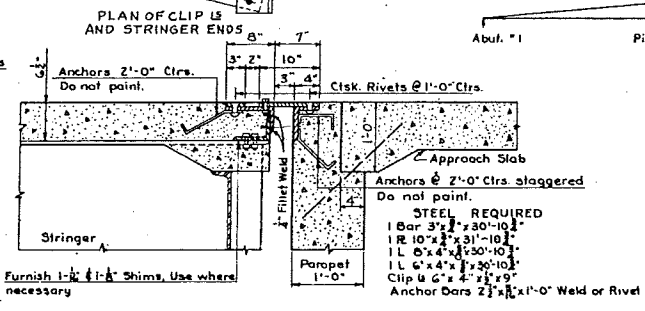
CAMBER DIAGRAM



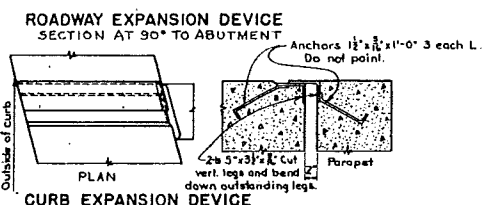
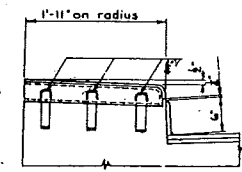
BLOCKING DIAGRAM



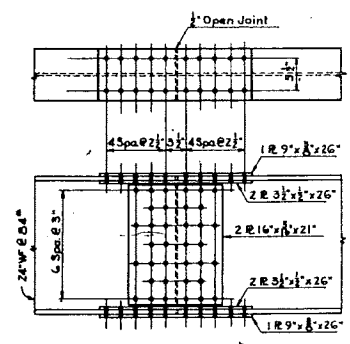
DETAIL AT CURB



STEEL REQUIRED
 1 Bar 3" x 30'-10"
 1 R 10" x 31'-10"
 1 L 6" x 4" x 30'-10"
 1 L 6" x 4" x 30'-10"
 Clip 6" x 4" x 9"
 Anchor Bars 2" x 1'-0" Weld or Rivet



DETAILS OF ABUTMENT EXPANSION DEVICE



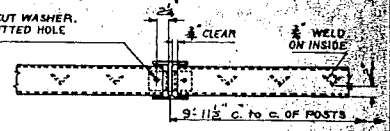
WEB SPLICE

3372 x
 24.2
 20
 774

COL DEPARTMENT
 3 SPAN (31-38)
 CONCRETE
 30'-0" CLEAR
 APPROACH SI
 & EXPANSIO
 Address: BLACK S
 811-483
 Near: HUSTON
 Designed by: E.F.S.
 Made by: W.L.P.
 Checked by:

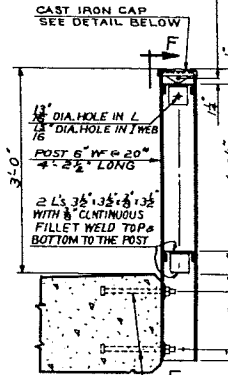
FED. ROAD DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9 COLO.	F 1002-2 (25) UNIT # 2	23	

1/2" DIA. x 1/2" BOLT, HEX HEAD, HEX NUT AND CUT WASHER.
1/4" DIA. HOLE IN CHANNELS AND 1/2" x 1" SLOTTED HOLE IN OUTSTANDING LEG OF ANGLES.

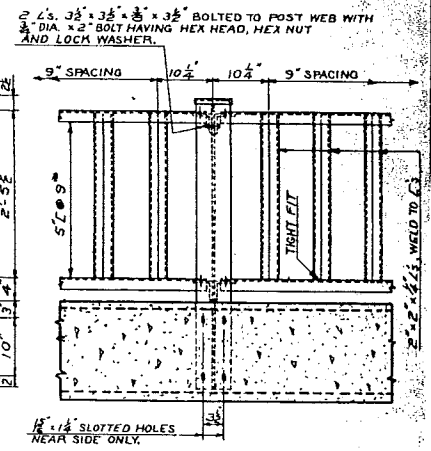


PLAN WITH POST CAP REMOVED

3/4" DIA. HOLE THROUGH WEB OF POST FOR 3/8" x 1/2" BOLT WITH HEX HEAD, HEX NUT AND LOCK WASHER.

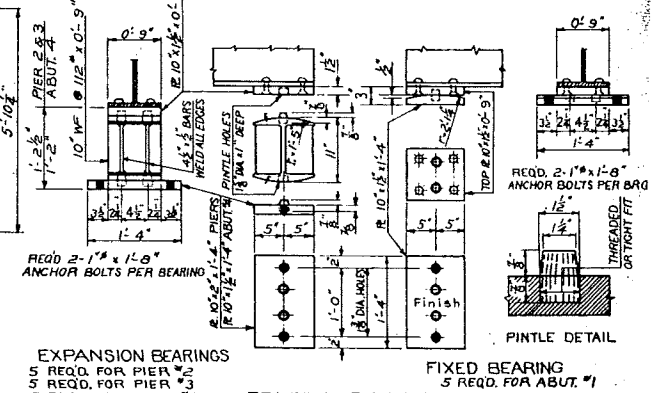


TYPICAL SECTION

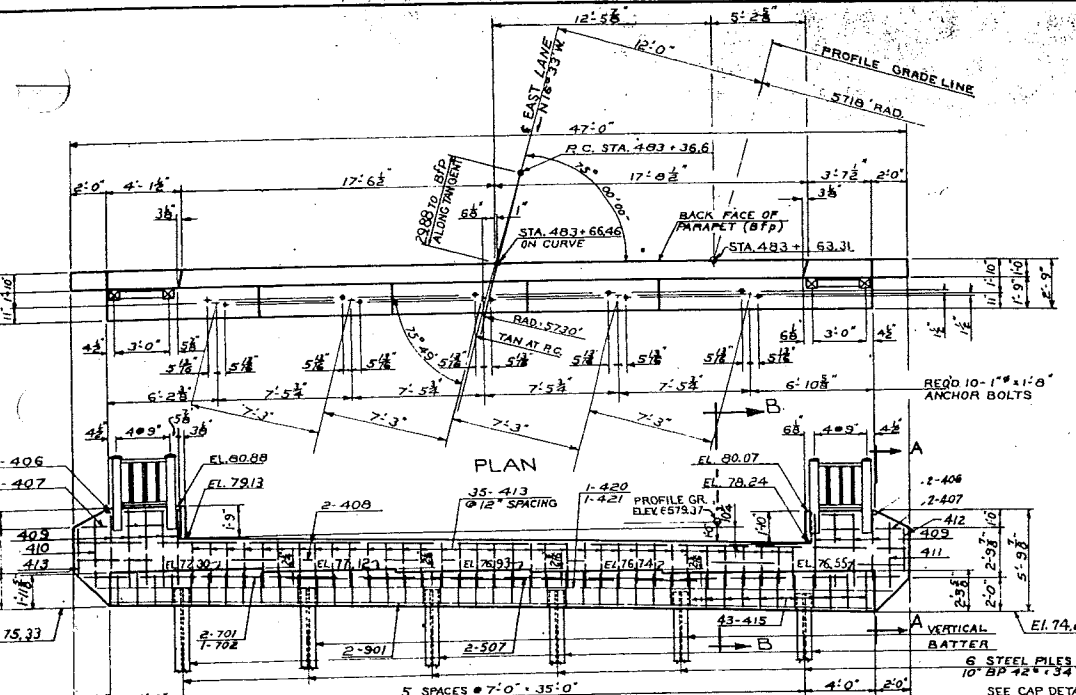


SECTION F-F (TYPICAL SUPERSTRUCTURE SPACING)

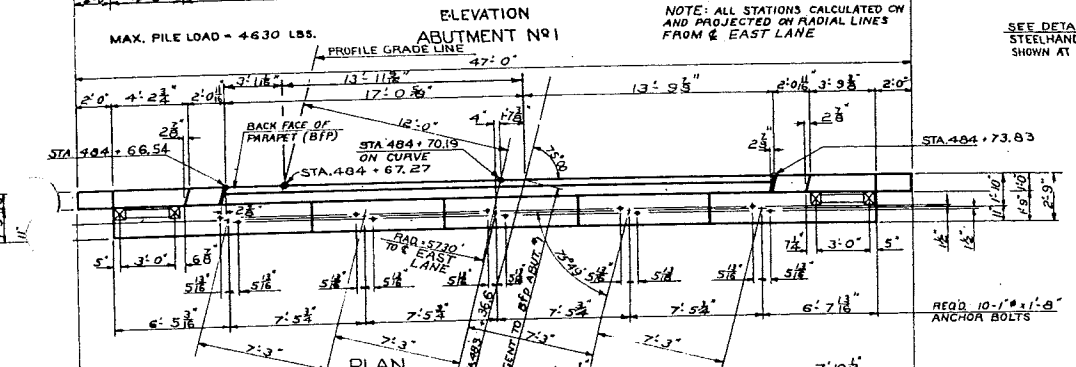
DETAILS OF STEEL HANDRAIL



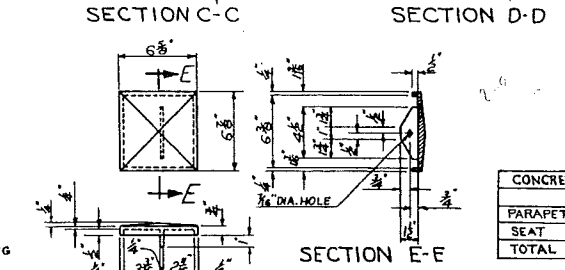
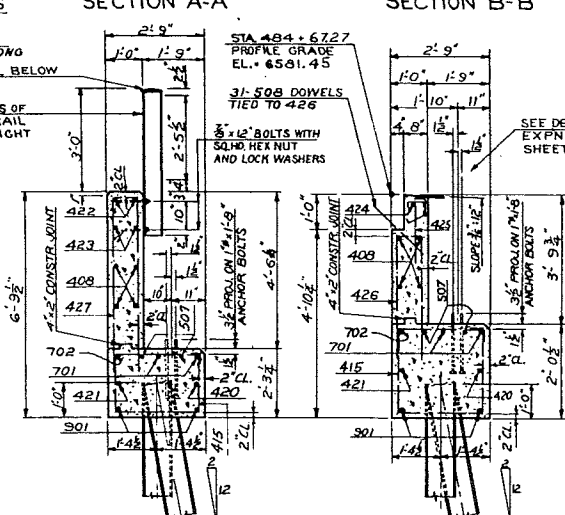
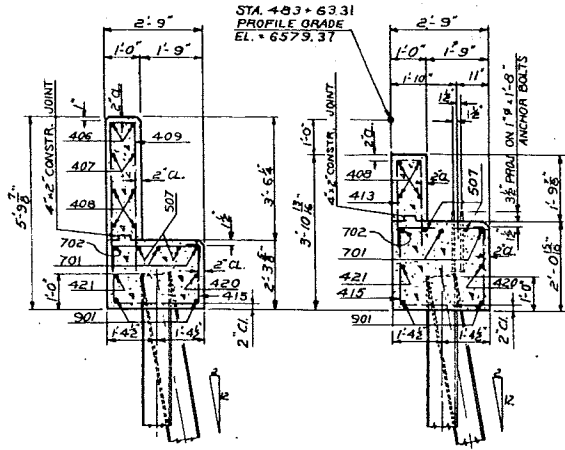
BEARING DETAILS



ELEVATION ABUTMENT No 1



ELEVATION ABUTMENT No 4



DETAILS OF CAST IRON POST CAP

CONCRETE POURING SCHEDULE	ABUT. #1	ABUT. #4
PARAPET	4.10 CU.YD.	7.00 CU.YD.
SEAT	9.10 CU.YD.	3.10 CU.YD.
TOTAL	13.20 CU.YD.	16.10 CU.YD.

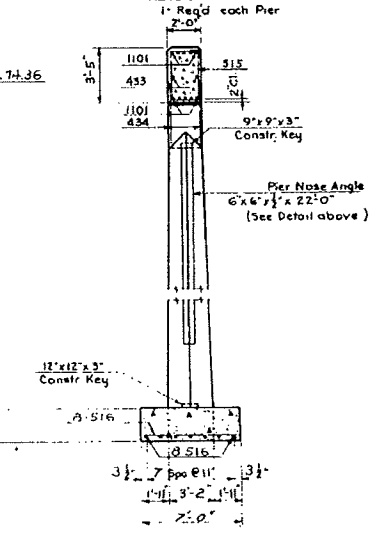
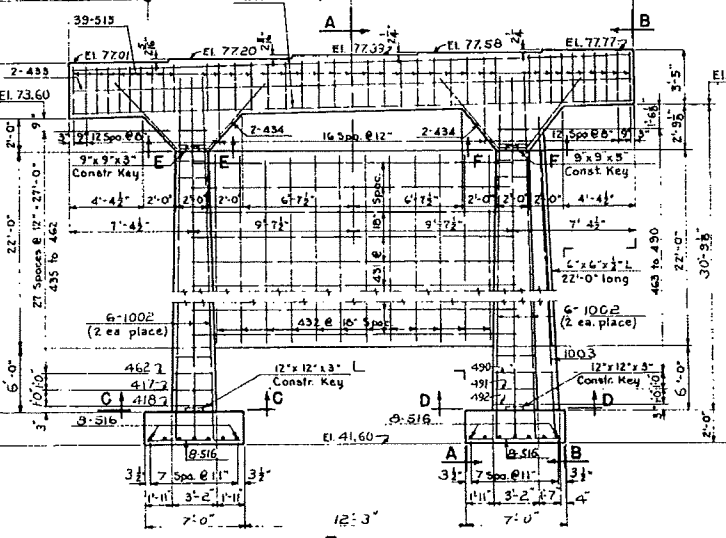
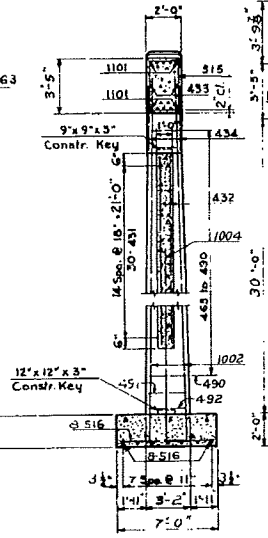
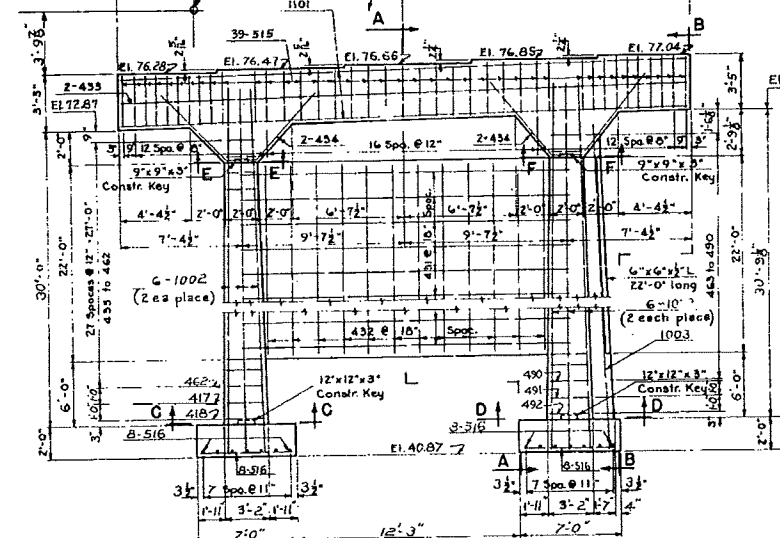
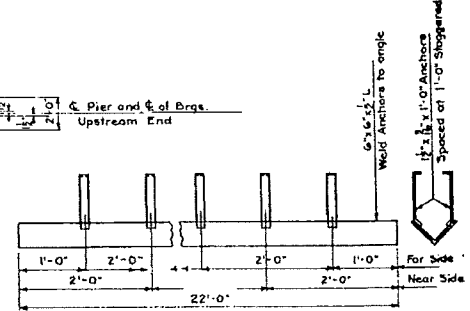
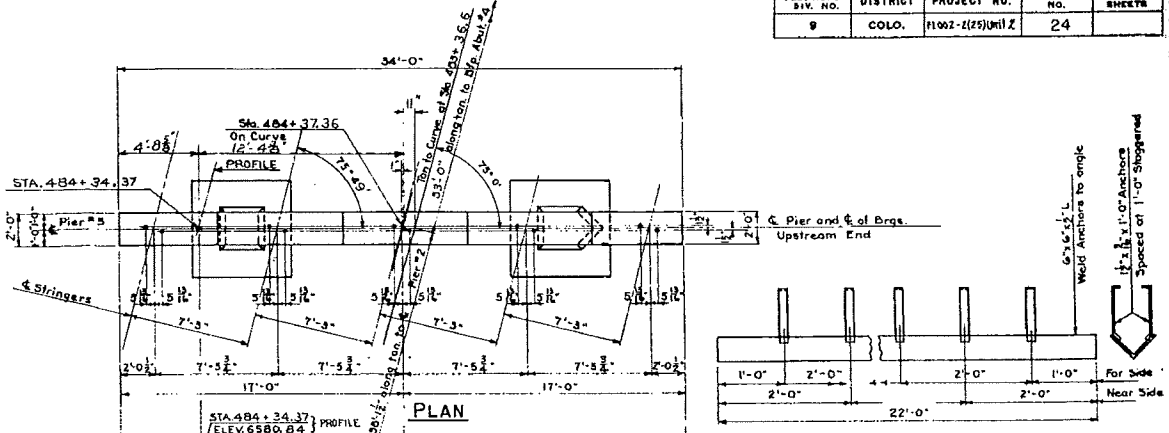
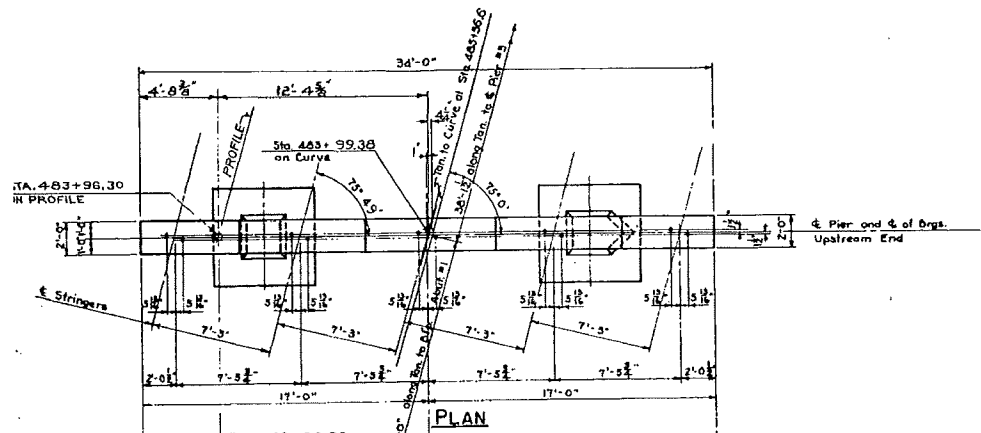
ALL DIMENSIONS NOT SHOWN AS "CL." (CLEAR) ARE TO F OF BARS. STRUCTURE NO. H-17-J

COLORADO
DEPARTMENT OF HIGHWAYS
3 SPAN (31, 38, 31) CONTINUOUS CONCRETE SLAB & I-BEAM BRIDGE
30'-0" CLEAR ROADWAY 75° SKEW
DETAILS OF ABUT. #1 & ABUT. #4
BEARING AND STEEL HANDRAIL DETAILS
Across BLACK SQUIRREL CREEK
Sta. 483+66.48 to 484+70.75
Near MUSTED See 16 1-12 S.W. 64 W

Designed by CFS
Made by LWF
Checked by

Approved by J. J. Bach
Bridge Engineer
Date: Aug. 10, 1963.

FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	F1002-2(25)M12	24	



ELEVATION
PIER NO. 2

SECTION A-A

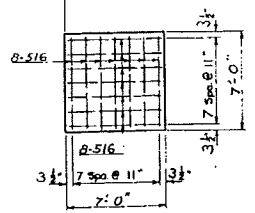
ELEVATION
PIER NO. 3

SECTION B-B

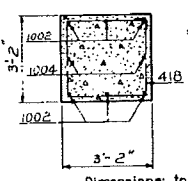
Max. Footing Pressure = 6060 Lbs. per Sq. Ft.

Max. Footing Pressure = 6060 Lbs. per Sq. Ft.

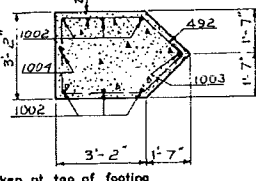
Note: All Stations calculated on and Projected from & EAST Lane.



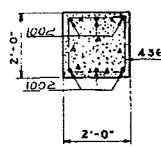
FOOTING PLAN
Same for all footings



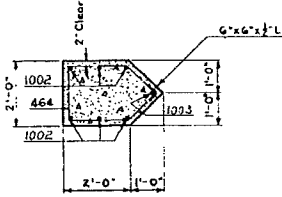
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

Dimensions taken at top of footing

All dimensions not shown as "CL" are to & of bars.

	CONCRETE POURING SCHEDULE	
	PIER 2	PIER 3
FOOTINGS	7.3 Cu. Yd.	7.3 Cu. Yd.
COLUMNS	15.8 "	15.8 "
CAP	10.0 "	10.0 "
WALL	13.7 "	13.7 "
TOTAL	46.8 "	46.8 "

COLORADO DEPARTMENT OF HIGHWAYS
 3 SPAN (31'-38'-31') CONTINUOUS CONCRETE SLAB & I BEAM
 30'-0" CLEAR RDWY. 75° SKEW
 DETAILS OF PIERS 2 & 3

Across Black Squirrel Creek
 Sta. 483+66.4 to 484+70.19
 Near Huston Sec. 16 T. 12S. R. 66W.

Designed by E. F. S. Approved by *[Signature]*
 Made by L.W.F. Bridge Engineer
 Checked by *[Signature]* Date: 11/10/1953