

AS CONSTRUCTED  
REVISED DATE 12-2-66

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 012-2(13)	50	

SUMMARY OF QUANTITIES							
ITEM	UNIT	DESCRIPTION	ABUT. NO. 1	PIER NO. 2	ABUT. NO. 3	SUPER STR.	TOTAL
202	EA.	REM. PORT PRESENT STR.					2
206	CU. YD.	STR. EXCAV.	1470	136	13		1619
206	CU. YD.	STR. BKFL. (CL. 3)	2306	110	27		2443
403	TON	HBP (GR. E) (HAUL & ASPHALT)	15 H		15 H	120 @	150188
411	GAL.	LIQ. ASPH. MATL. (RC-800)	7 H		7 H	79 @	93438
502	LIN. FT.	STEEL PILE (10BP42)			282		282
509	L.S.	STR. STEEL					L.S.
509	L.S.	STR. STEEL (GALV.)					L.S.
210	LIN. FT.	RES. RAILING	30		30	260	320
601	CU. YD.	CONCRETE CL. A	605	43	68	240253	976969
602	LB	REINF. STEEL #	57305	9305	7440	40690	128900
606	LIN. FT.	GD. RAIL TY. 3A(DOUBLE)	12.5		12.5	125	150
*	SQ. FT.	EXP. JT. MATL.	75			363	438
*	SQ. FT.	16 GA. GALV. SHT. STEEL				207	207
607	LIN. FT.	FENCE CHAIN LINK (36 INCH)	12.5		12.5		150

① INCLUDES QUANTITIES FOR 1 APPROACH SLAB.  
THERE SHALL BE NO SEPARATE PAYMENT FOR ITEMS MARKED WITH (\*).  
PAYMENT THEREFORE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR ITEM 601, CONCRETE CL. A.  
② DESIGN WEIGHT = 207,705 LB.  
③ DESIGN WEIGHT = 2115 LB.  
\* Paid as Per Suppliers Invoices 122,788 lbs.

Steel Pile Cutoff

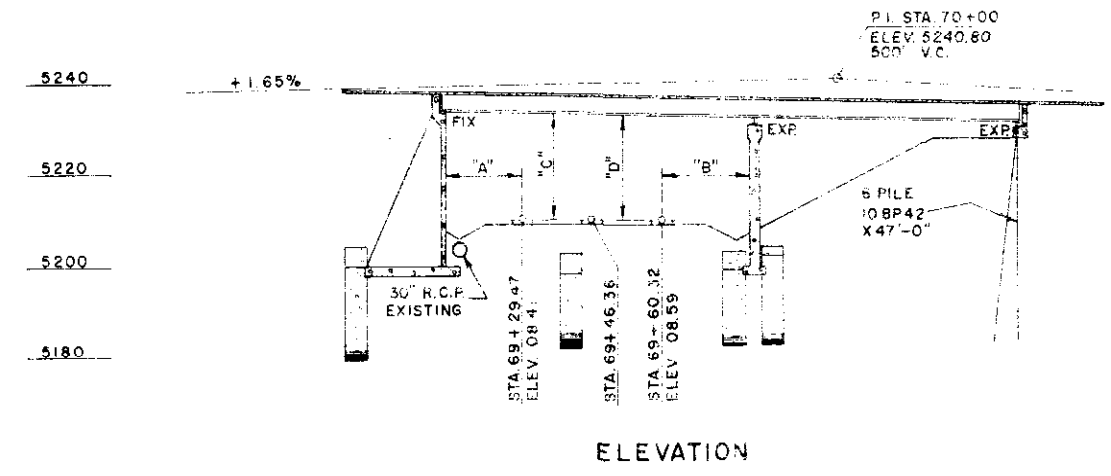
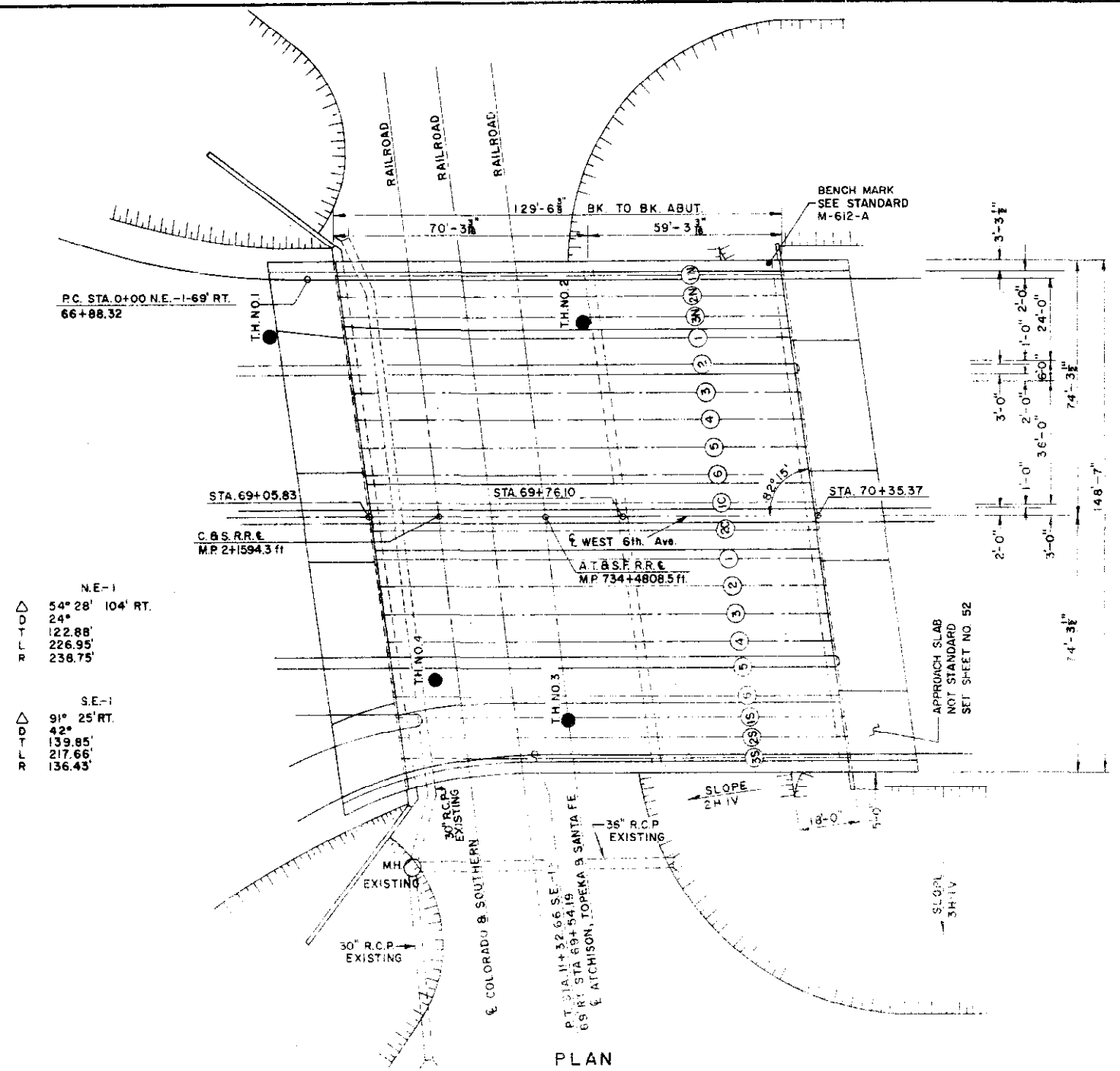
Length	Location
2	Abut. 3
2	"
3	"
4	"
4	"
3	"

Pile Summary 10BP42

North	South
18'-3"	18'-3"
42'	42'
48'	48'
48'	48'
46'	46'
46'	46'
47'	47'

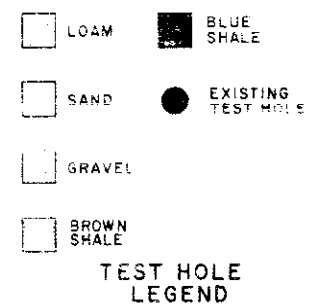
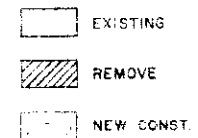
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CLEARANCE DIMENSIONS

DIMENSION	"A"	"B"	"C"	"D"
CLEARANCE AT NORTH END	21'-5"	13'-8"		
CLEARANCE AT SOUTH END	21'-2"	14'-9"		
CLEARANCE AT GIRDER IN	21'-0"	13'-11"		
CLEARANCE AT GIRDER 3.5			23'-5"	24'-10"
			24'-1"	23'-5"



JEFFERSON ASSOCIATES  
CIVIL ENGINEERS

DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO

GENERAL PLAN & ELEVATION

Across C.B.S. AND A.T.S.F. R.R.  
Sta. 69+05.83 TO 70+35.37  
Near DENVER Sec. 9 T. 4 S. R. 68 W.

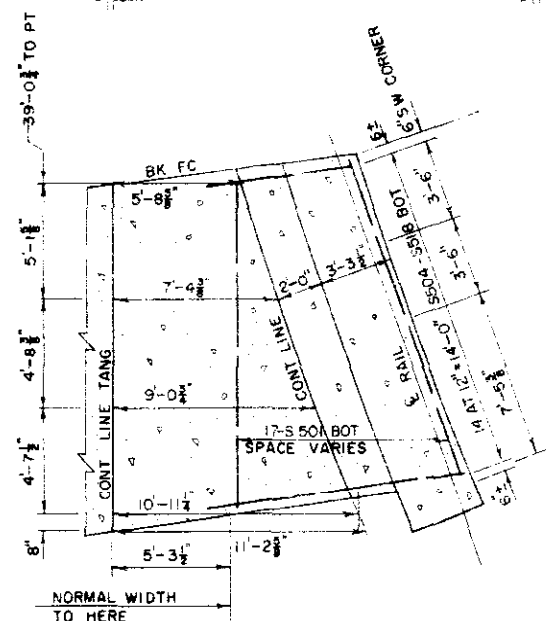
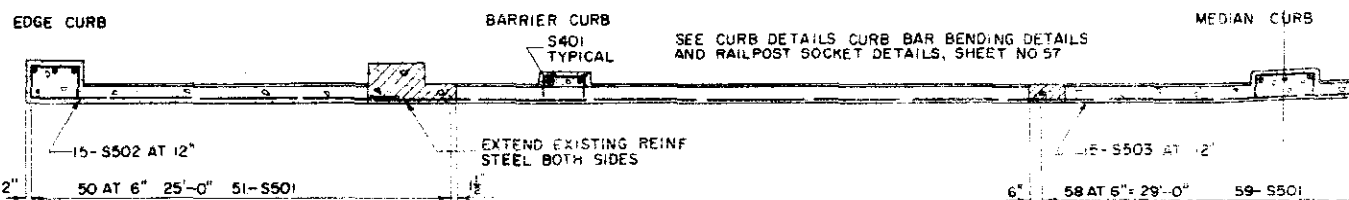
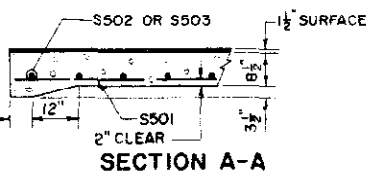
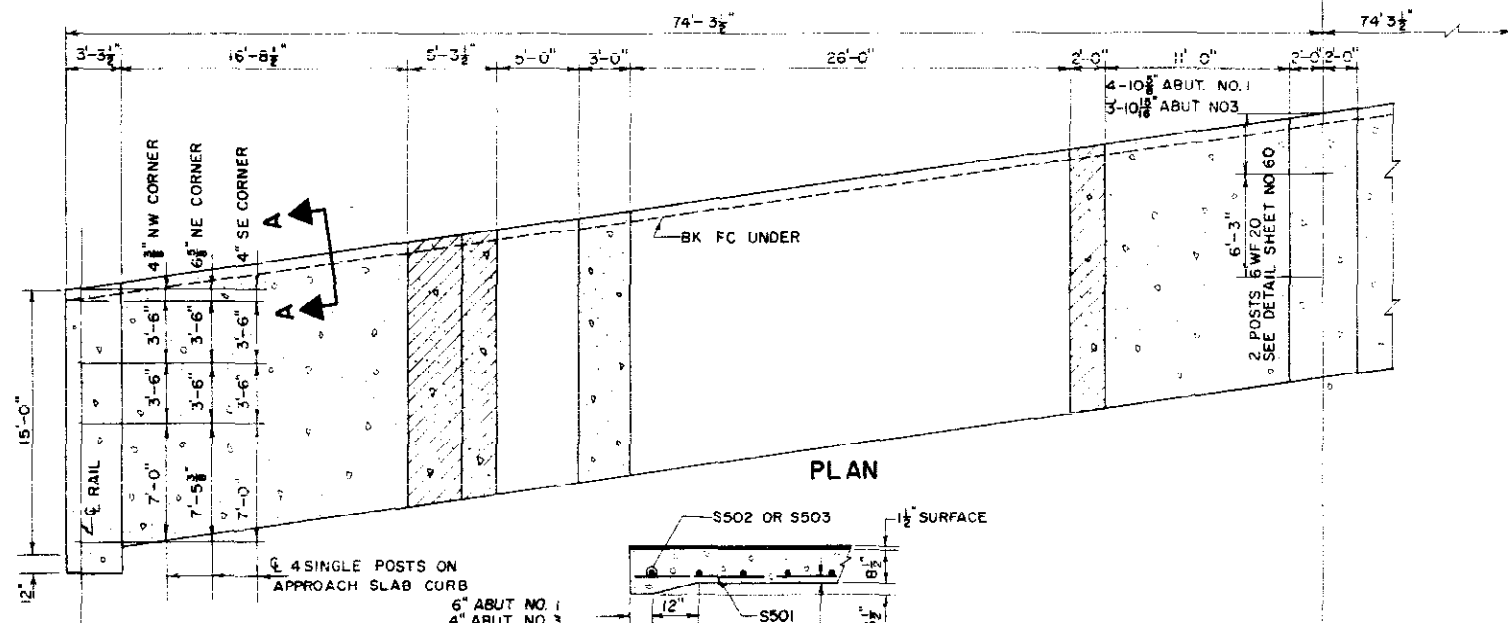
Designed by T.V.S. Approved by  
Made by R.L. Bridge Engineer  
Checked by G.D.C. Date: 19

NORTH - F16 - EI  
STRUCTURE NO. SOUTH - F16 - EJ

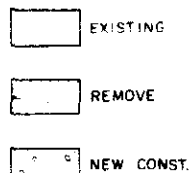


STRUCTURAL STEEL HANDRAIL ON  
APPROACH SLAB CURBS SHALL BE  
SALVAGED FROM EXISTING STRUCTURE

ROADWAY SYMMETRICAL  
EXCEPT AT SOUTHWEST  
CORNER



PLAN AT SOUTHWEST CORNER



APPROACH SLAB DETAILS

SUMMARY OF QUANTITIES APP. SLAB-NORMAL WIDTH			
ITEM	UNIT	DESCRIPTION	AMOUNT
403	TON	HBP (GR. E.)	15
411	GAL	LIG ASPH. MATURC-800	7
505	L.S.	STR. STEEL	15
509	L.S.	STR. STEEL (GALV)	15
210	LIN. FT.	RES. RAILING	30
601	CUYD.	CONCRETE CL. A	41
602	LB.	REINF. STEEL	4038
606	LIN. FT.	GD. RAIL TY. 3A DBL.	125

① DESIGN WEIGHT = 115 LB.  
② DESIGN WEIGHT = 170 LB.

SUMMARY OF QUANTITIES EXTRA AT SO. WEST CORNER			
ITEM	UNIT	DESCRIPTION	AMOUNT
601	CUYD.	CONCRETE CL. A	4
602	LB.	REINF. STEEL	405

BAR LIST APP. SLAB-NORMAL WIDTH						
MARK	SIZE	SHAPE	REQD.	LENGTH		
S401	3	—	13	14'-9"		
C403	4	—	16	2'-9"		
C404	4	—	16	6'-9"		
C405	4	—	8	6'-6"		
C501	5	—	32	1'-4"		
S501	5	—	161	14'-9"		
S502	5	—	30	25'-0"		
S503	5	—	15	29'-9"		

BAR SUMMARY APP. SLAB-NORMAL WIDTH				
MARK	SIZE	SHAPE	REQD.	LENGTH
400	L. FT. # 4	AT 0.668 #/FT.		365
3615	L. FT. # 5	AT 1.043 #/FT.		3770
TOTAL = 4035				

BAR LIST EXTRA AT SO. WEST CORNER				
MARK	SIZE	SHAPE	REQD.	LENGTH
S501	5	—	17	14'-9"
S504	5	—	1 EA	8'-10" BY 4"
S518	5	—	1 EA	11'-6"

BAR SUMMARY EXTRA AT SO. WEST CORNER				
MARK	SIZE	SHAPE	REQD.	LENGTH
390	L. FT. # 5	AT 1.043 #/FT.		405

REVISIONS

AS CONSTRUCTED  
REVISED DATE

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLD.	UO12-(13)	52	

BAR SUMMARY				
MARK	SIZE	SHAPE	REQD.	LENGTH
15	L. FT. #3	AT 0.376 #/FT.		5
3700	L. FT. #4	AT 0.668 #/FT.		2470
2965	L. FT. #5	AT 1.043 #/FT.		3095
1080	L. FT. #6	AT 1.502 #/FT.		1620
655	L. FT. #7	AT 2.044 #/FT.		1340
655	L. FT. #8	AT 2.670 #/FT.		1750
655	L. FT. #9	AT 3.400 #/FT.		2225
1210	L. FT. #10	AT 4.303 #/FT.		5205
740	L. FT. #11	AT 5.313 #/FT.		3930
TOTAL = 21,635 LB.				

SUMMARY OF QUANTITIES			
ITEM	UNIT	DESCRIPTION	AMOUNT
206	CUYD.	STR. EXCAV.	785
206	CUYD.	STR. BKFL (CL. 3)	681
509	L.S.	STR. STEEL	L.S.
601	CUYD.	CONCRETE CL. A	215
602	LB.	REINF. STEEL	21,472

① DESIGN WEIGHT = 105 LB.

BAR LIST				
MARK	SIZE	SHAPE	NO. REQD.	LENGTH
A301	3	—	8	2'-0"
A401	4	—	56	30'-6"
A402	4	—	41	5'-9"
A403	4	—	41	7'-3"
A404	4	—	41	5'-11"
A405	4	—	20	5'-7"
A406	4	—	4 EA	13'-9" TO 7'-9" AT 8" INC.
A415	4	—	8	11'-1"
A416	4	—	10	36'-11"
A417	4	—	8	27'-0"
A418	4	—	43	13'-0"
A501	5	—	14	19'-0"
A502	5	—	14	24'-3"
A503	5	—	4 EA	27'-1" TO 14'-8" AT 8" INC.
A504	5	—	6	4'-0"
A523	5	—	6	19'-6"
A524	5	—	22	22'-0"
A525	5	—	22	27'-0"
A701	7	—	10	19'-2"
A702	7	—	10	24'-3"
AT 701	7	—	5	19'-8"
AT 702	7	—	5	24'-9"
A801	8	—	10	19'-2"
A802	8	—	10	24'-3"
AT 801	8	—	5	19'-8"
AT 802	8	—	5	24'-9"
A901	9	—	10	19'-2"
A902	9	—	10	24'-3"
AT 901	9	—	4	19'-8"
AT 902	9	—	4	24'-9"
A1001	10	—	51	18'-8"
A1002	10	—	37	7'-0"
A1101	11	—	8	37'-11"
A1102	11	—	8	26'-7"
A1103	11	—	8	17'-5"
A1104	11	—	8	10'-3"

BAR LIST BAR SUMMARY QUANTITIES  
ABUTMENT NO. 1

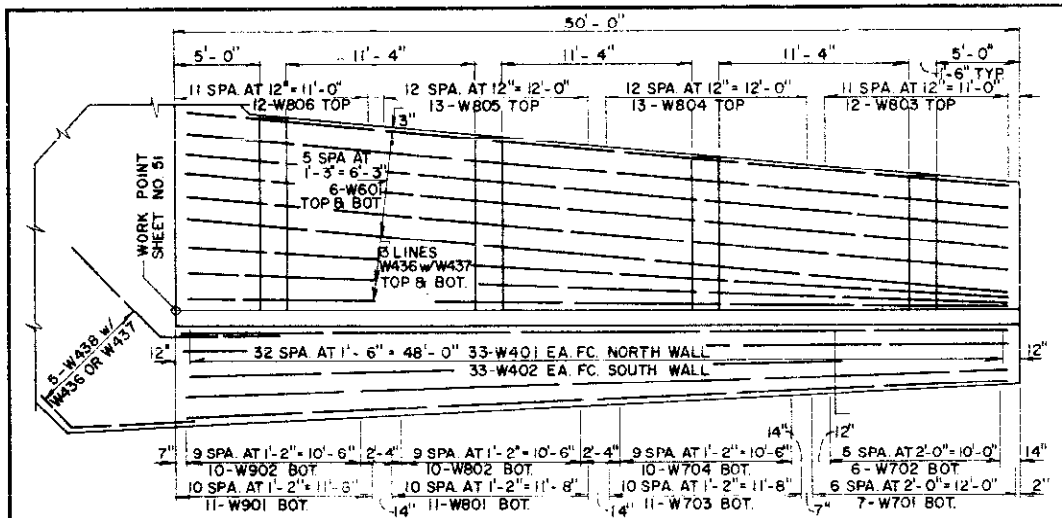
JEFFERSON ASSOCIATES  
CIVIL ENGINEERS

DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO  
APPROACH SLAB DETAILS  
BAR LIST - BAR SUMMARY  
QUANTITIES  
ABUT. NO. 1

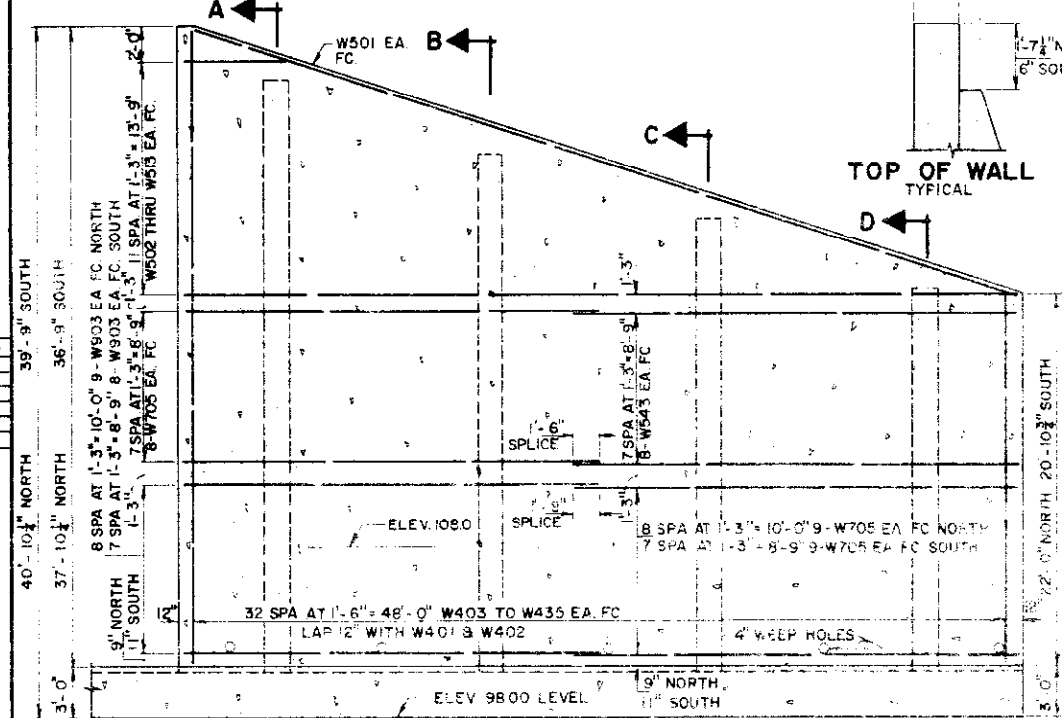
Across C.B.S. AND AT S.F.R.R.  
Sta. 69+05.38 - 70+35.77  
Near DENVER Sec. 49.9 T. 4S. R. 68W  
Designed by T.V.S. Approved by  
Made by E.A.L. Bridge Engineer  
Checked by G.D.C. Date: 19

NORTH F-16-EI  
STRUCTURE NO. SOUTH F-16-EJ

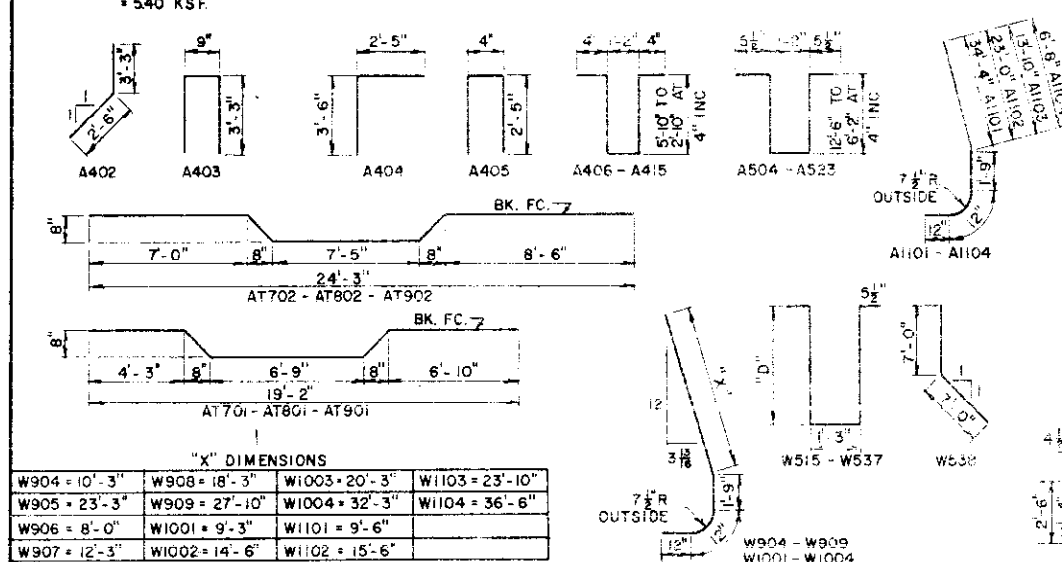
FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 012-2(13)	53	



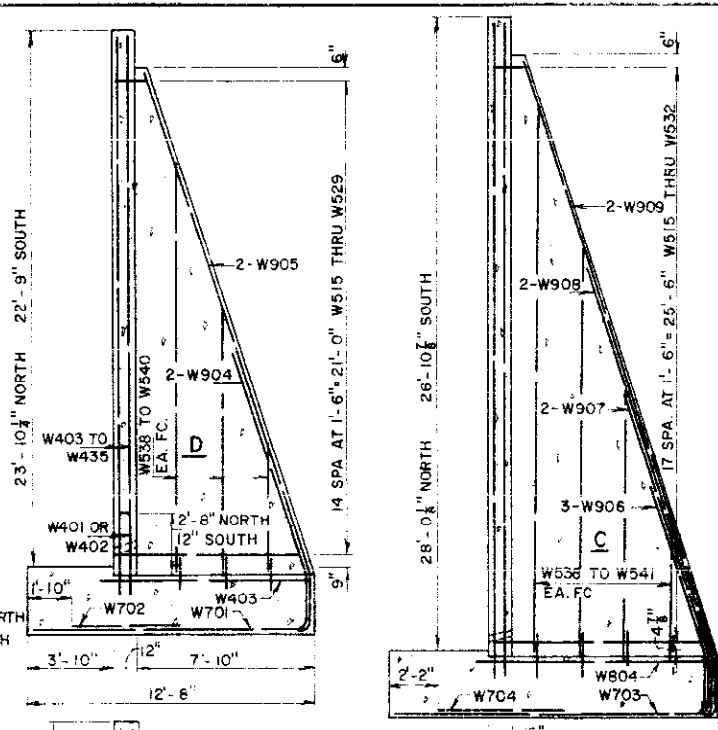
WALL PLAN NORTH WALL SHOWN



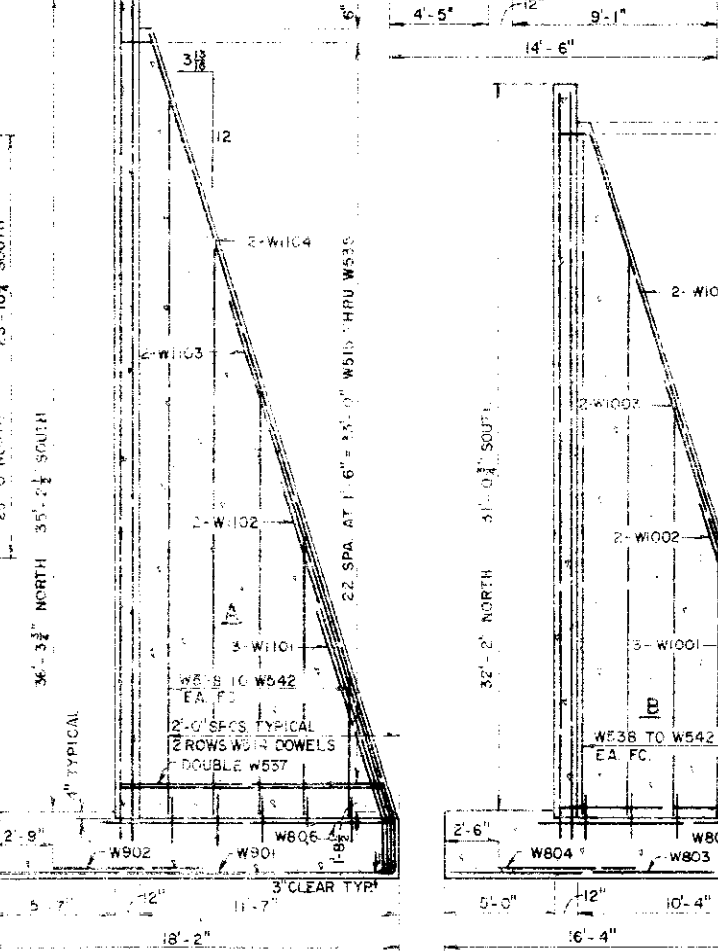
WALL ELEVATION



BAR BENDING DETAILS ABUT. NO. 1



SECTIONS ON C COUNTERFORTS



SECTIONS AT BASE OF COUNTERFORTS

① BAR SUMMARY

5360 L.F.T.#4	AT 0.668 #/FT.	= 3580
5860 L.F.T.#5	AT 1.043 #/FT.	= 6115
1200 L.F.T.#6	AT 1.502 #/FT.	= 1805
2385 L.F.T.#7	AT 2.044 #/FT.	= 4875
1630 L.F.T.#8	AT 2.670 #/FT.	= 4355
1945 L.F.T.#9	AT 3.400 #/FT.	= 6615
390 L.F.T.#10	AT 4.303 #/FT.	= 1680
430 L.F.T.#11	AT 5.313 #/FT.	= 2285
TOTAL		= 31,310 LB.

① SUMMARY OF QUANTITIES

ITEM	UNIT	DESCRIPTION	AMOUNT
206	CUYD	STR. EXCAV.	685
206	CUYD	STR. BKFL. (CL. 3)	1625
601	CUYD	CONCRETE CL. A	345
602	LB.	REINF. STEEL	31,299
*	SQ FT	1/4" EXP. JT. MATL.	75

① FOR 2 WINGS  
THERE SHALL BE NO SEPARATE PAYMENT FOR ITEMS MARKED THUS (\*). PAYMENT THEREFORE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR ITEM 601 CONCRETE CL. A.

① BAR LIST

MARK	SIZE	SHAPE	REQD	LENGTH	MARK	SIZE	SHAPE	REQD	LENGTH
W1001	10	J	6	13'-0"	W401			66	2'-0"
W1002			4	18'-3"	W402			66	3'-2"
W1003			4	24'-0"	W403			4 EA.	20'-8" TO 36'-8"
W1004			4	36'-0"	W435			22	11'-0"
W1101	11	J	6	13'-3"	W436			22	40'-0"
W1102			4	19'-3"	W437			10	14'-0"
W1103			4	27'-7"	W438				
W1104			4	40'-3"					

① BAR LIST

W501			4	52'-3"
W502			4 EA.	2'-10" TO 49'-9"
W513			68	2'-0"
W514			8 EA.	
W515			6 EA.	4'-8" BY 12" TO 26'-8"
W529			4EA	
W530			2	
W532			16 EA.	5'-10" BY 6'-2" TO 30'-6"
W533			8	
W535			32	25'-9"
W536				
W537			24	50'-0"
W538			14	11'-6"
W540			12	6'-6"
W541			22	13'-3"
W542			20	7'-6"
W543			66	25'-10"
W601			22	15'-0"
W602			20	8'-0"
W603			24	9'-6"
W604			26	10'-9"
W605			26	12'-0"
W606			24	13'-3"
W901			22	17'-0"
W902			20	9'-0"
W903			34	25'-10"
W904			4	14'-0"
W905			4	27'-0"
W906			6	11'-9"
W907			4	16'-0"
W908			4	22'-0"
W909			4	31'-7"

JEFFERSON ASSOCIATES  
CIVIL ENGINEERS

DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO

WINGS  
ABUTMENT NO. 1

Across C.B.S. AND A.T.S.F.R.R.  
Sta. 69+05.38 TO 70+35.37  
Near DENVER Sec. 489, T. 4S, R68W

Designed by T.V.S. Approved by  
Made by F.F.J. Bridge Engineer  
Checked by G.D.C. Date: 19

NORTH F-16-EI  
STRUCTURE NO SOUTH F-16-EJ



AS CONSTRUCTED  
REVISED DATE

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	UC12-2 (13)	55	

BAR LIST

MARK	SIZE	"D"	SHAPE	NO. REQD.	LENGTH
AE401				42	10'-4"
AE402				42	4'-5"
AE403		1-11 1/2"		8	9'-6"
AE404		1-10 1/2"		6	9'-4"
AE405		1-10"		7	9'-3"
AE406		1-6"		8	8'-7"
AE407		1-5"		6	8'-5"
AE408		1-4"		7	8'-3"
AE409				20	12'-4"
AE410				20	10'-6"
AE411				20	4'-0"
WE401				14	5'-10"
WE402				24	7'-4"

AE501				8	20'-0"
AE502	5			4	19'-6"
WE501				14	5'-10"

AE601	6			69	1'-6"
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AE801				20	20'-0"
AE802	8			2	26'-0"
AE803				8	19'-6"

AE901	9			4	6'-0"
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BAR SUMMARY

1792 LFT #4	AT 0.668 W/FT	= 1200
320 LFT #5	AT 1.043 W/FT	= 335
105 LFT #6	AT 1.502 W/FT	= 160
910 LFT #8	AT 2.670 W/FT	= 1,630
24 LFT #9	AT 3.400 W/FT	= 80
TOTAL		= 3,405

SUMMARY OF QUANTITIES

ITEM	UNIT	DESCRIPTION	AMOUNT
206	CU YD	STR EXCAV.	13
206	CU YD	STR BKFL. (CL.3)	27
502	LIN FT	STEEL PILE (10BP42)	202
509	L.S.	STR. STEEL	L.S.
601	CU YD	CONCRETE CL A	27
602	LB	REINF STEEL	3,405

① DESIGN WEIGHT = 105 LB

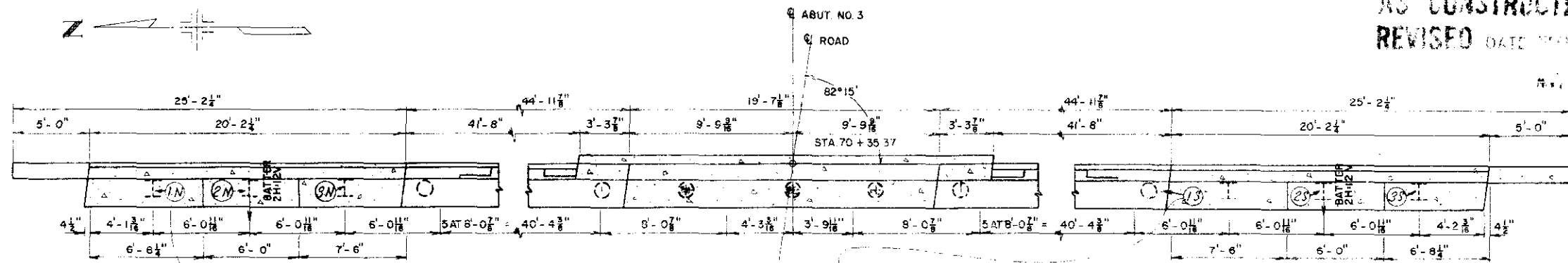
JEFFERSON ASSOCIATES  
CIVIL ENGINEERS

DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO

DETAILS  
ABUT. NO. 3

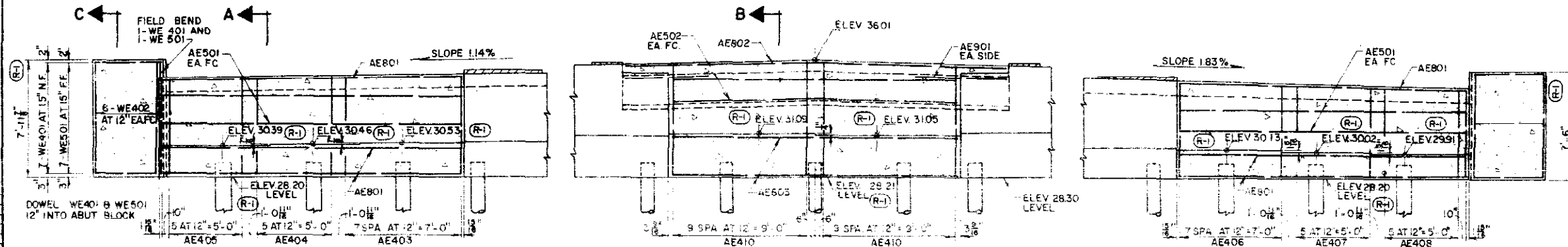
Across C.B.S. AND AT B.S.T. RR.  
Sta. 69+05.38 TO 70+35.37  
Near Sec. 4 B.S. T. 4.S. R. 68W.  
Designed by G.D.C. Approved by  
Made by F.F.J. Bridge Engineer  
Checked by T.V.S. Date: 19

NORTH F-16-E1  
STRUCTURE NO. SOUTH F-16-EJ

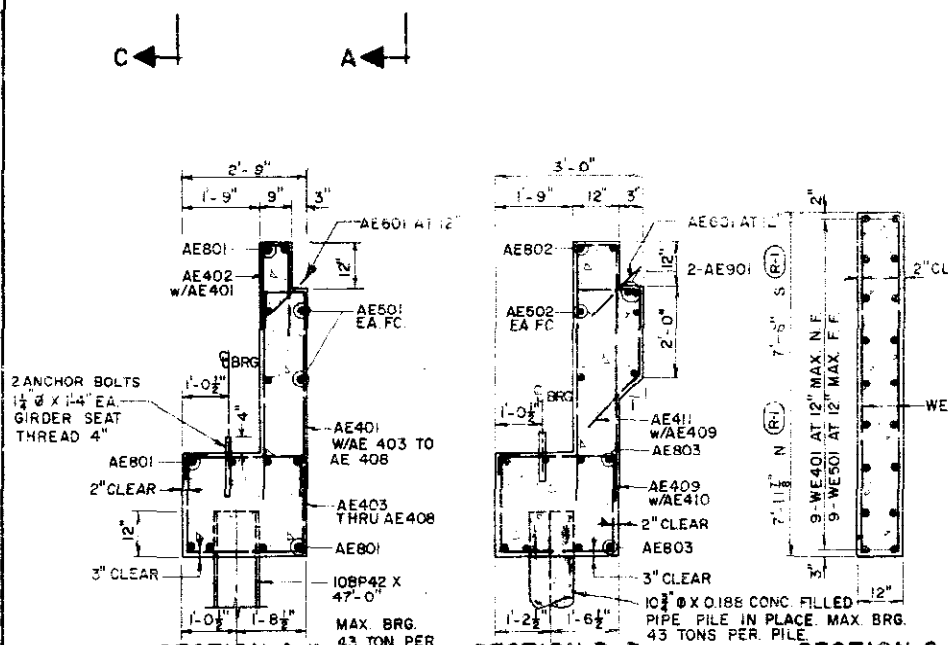


PLAN

See Sheet 50 For Tabulation of Piling Depths



ELEVATION

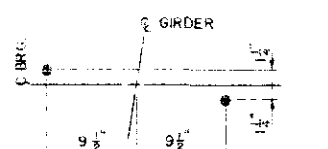


SECTION A-A

SECTION B-B

SECTION C-C

BAR BENDING DETAILS



ANCHOR BOLT TEMPLATE

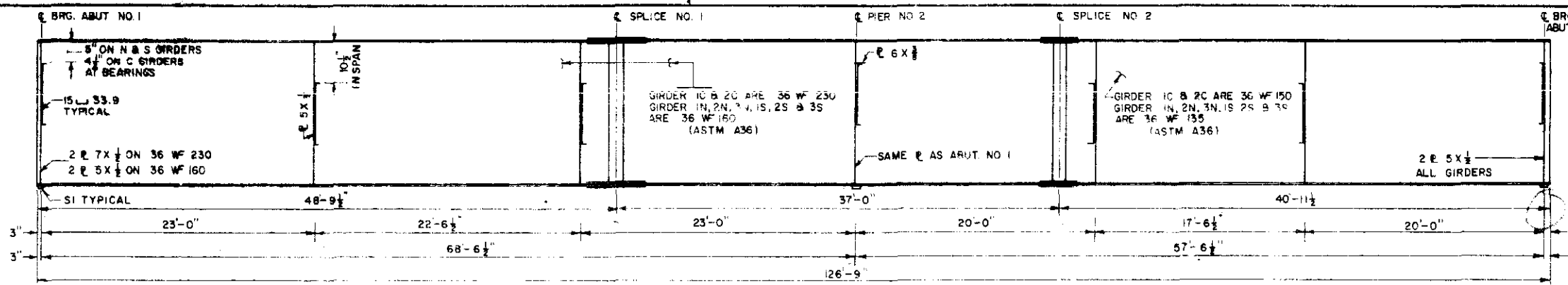
PROVIDE 6 R.M.I. AND  
8 ROCKERS RI

WING REMOVAL DETAIL

MEDIAN REMOVAL DETAIL

LEGEND

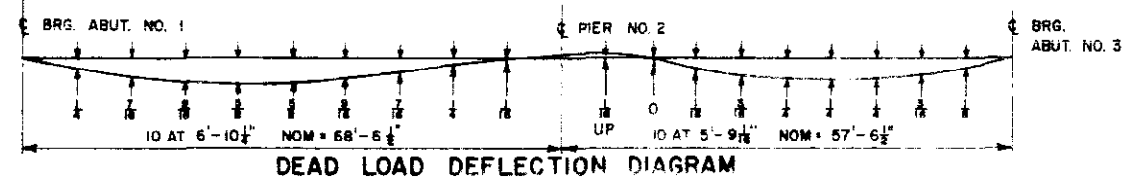
- EXISTING
- REMOVE
- NEW CONST.



FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLD	U 012 - 2 (13)	56	

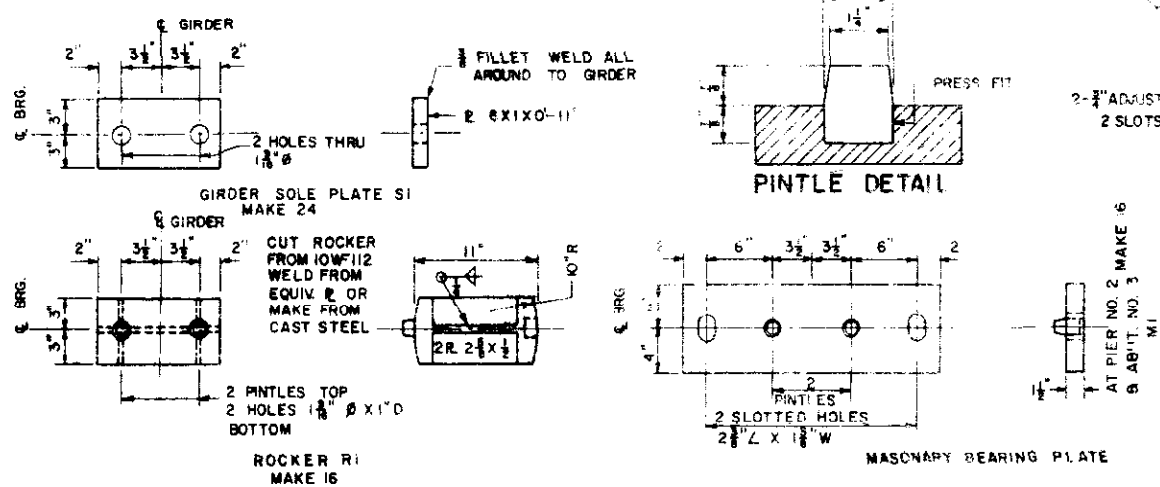
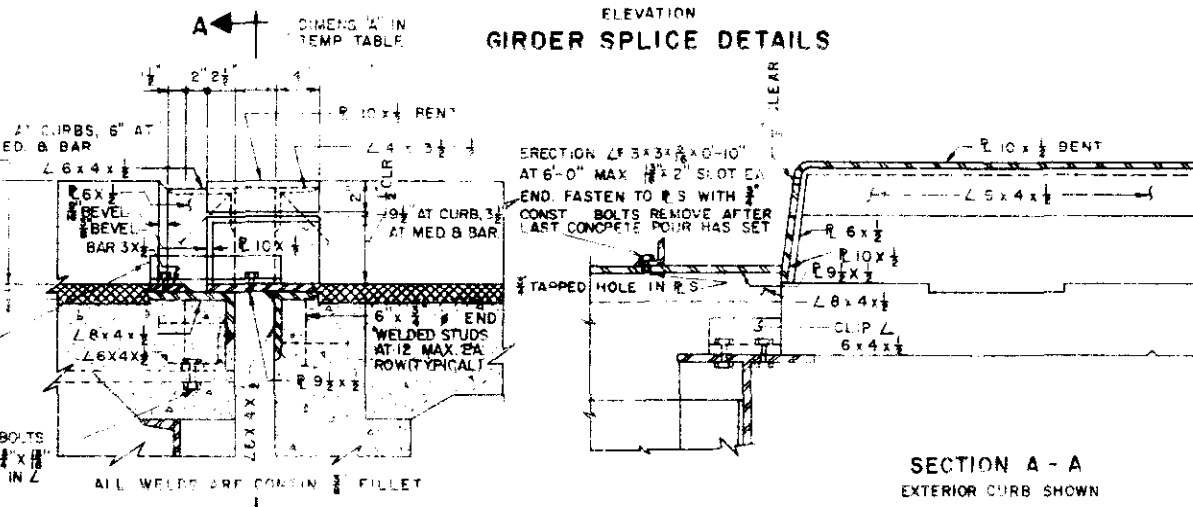
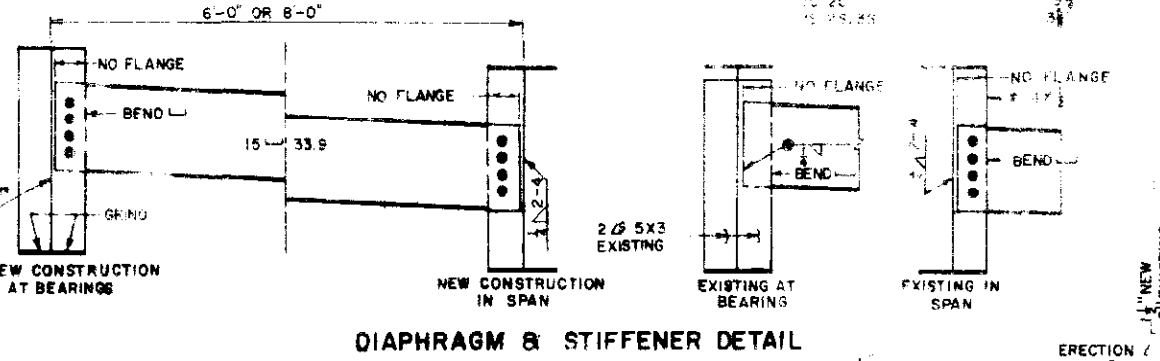
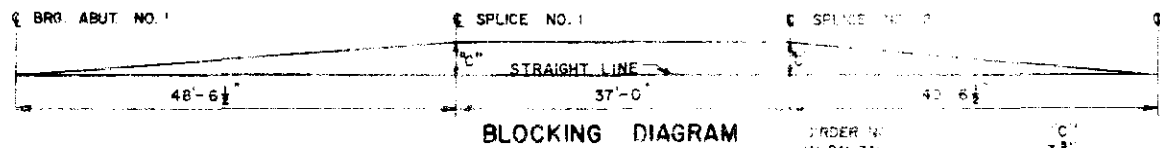
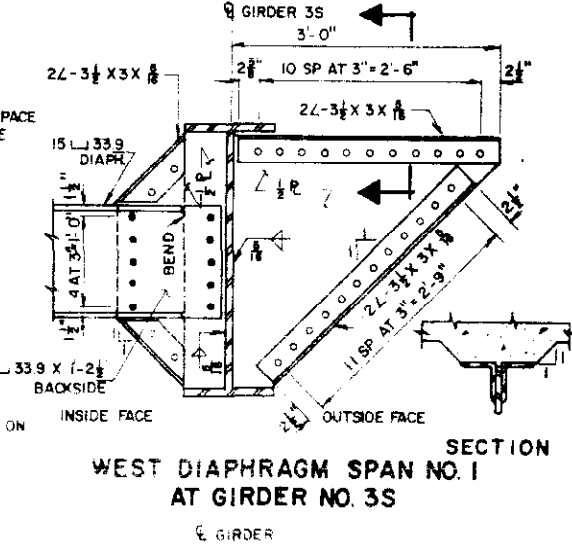
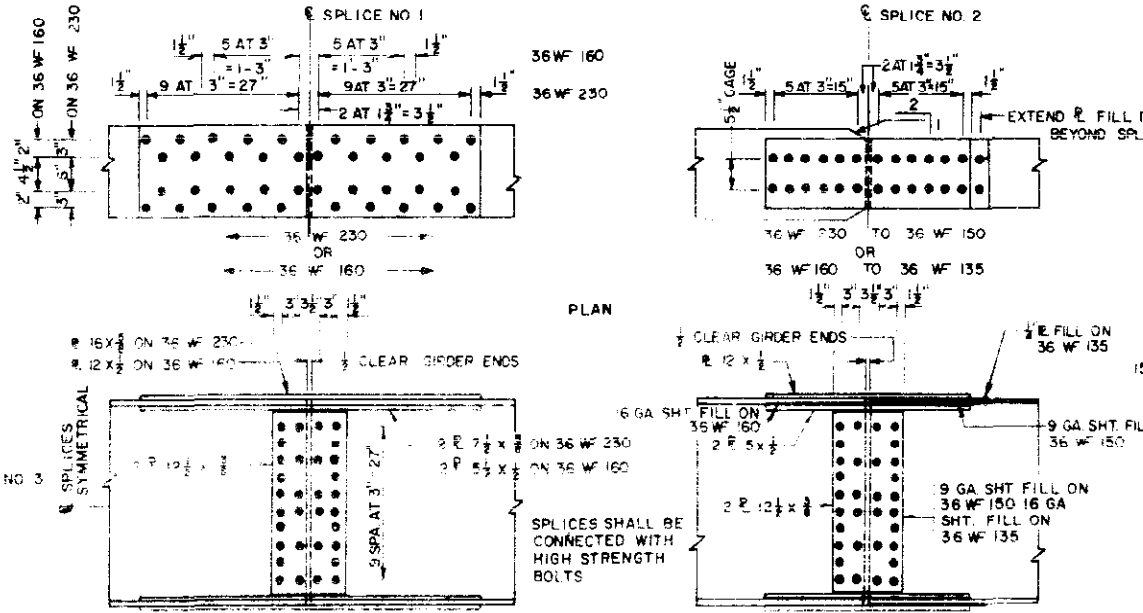
SPLICE BOLTS SHALL BE 7/8" DIAM.  
ALL OTHERS SHALL BE 1/2"

FABRICATE ALL GIRDERS AS SHOWN ON THE BLOCKING DIAGRAM. SPLICE HOLES SHALL BE SUBPUNCHED TO 1/8" DIAMETER AND REAMED TO 1/4" DIAMETER WITH GIRDERS ASSEMBLED AND BLOCKED TO CORRECT CAMBER.



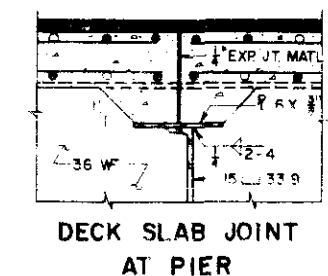
ELEVATIONS AT GIRDERS & TOP OF CONCRETE DECK SLAB DOES NOT INCLUDE DEAD LOAD DEFLECTION

POINT	1	2	3	4	5	6	7	8	9	P2	1	2	3	4	5	6	7	8	9	9	41
1N	37.72	37.65	37.57	37.47	37.37	37.26	37.14	37.01	36.87	36.73	36.59	36.48	36.33	36.20	36.05	35.90	35.75	35.59	35.42	35.25	35.14
1C	37.72	37.69	37.65	37.49	37.53	37.46	37.39	37.29	37.20	37.10	37.00	36.91	36.81	36.71	36.60	36.48	36.37	36.24	36.11	35.98	35.88
2C	38.03	37.98	37.92	37.85	37.77	37.68	37.58	37.47	37.35	37.23	37.10	37.01	36.90	36.78	36.67	36.54	36.41	36.26	36.11	35.96	35.86
3S	36.63	36.60	36.55	36.50	36.43	36.36	36.28	36.18	36.07	35.97	35.86	35.77	35.67	35.55	35.43	35.30	35.17	35.03	34.98	34.74	34.64



TEMP TABLE

TEMP	DIMENS
90	3 1/4"
65	3 1/2"
40	3 3/4"



(R-1) DECK SLAB DETAIL AT GIRDERS

SECTION A - A  
EXTERIOR CURB SHOWN

BEARING DEVICE DETAILS

DECK SLAB JOINT AT PIER

JEFFERSON ASSOCIATES  
CIVIL ENGINEERS

DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO

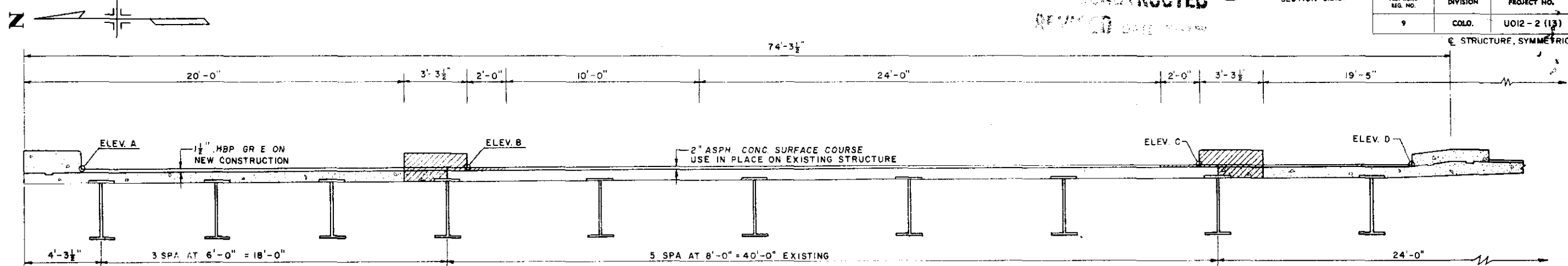
GIRDER & STRUCTURAL  
STEEL DETAILS

Across C.B.S. - AND - AT B.S.F.R.R.  
Sta. 69+05.36 TO 70+35.37  
Near DENVER Sec. 4 & 9 T. 49 R. 66W

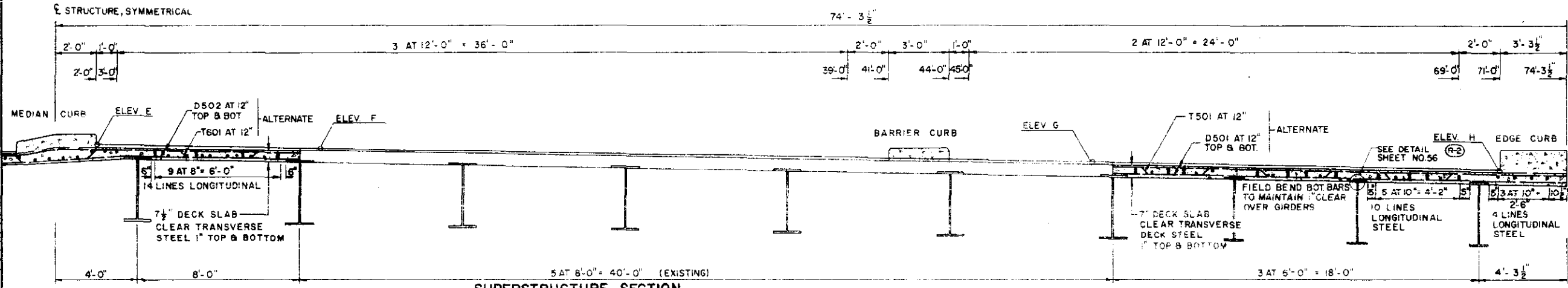
Designed by TYS Approved by  
Made by J.M.C. Bridge Engineer  
Checked by G.D.C. Date: 19

NORTH F-16 - EI  
STRUCTURE NO. SOUTH F-16 - EJ

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U012-2 (13)	57	



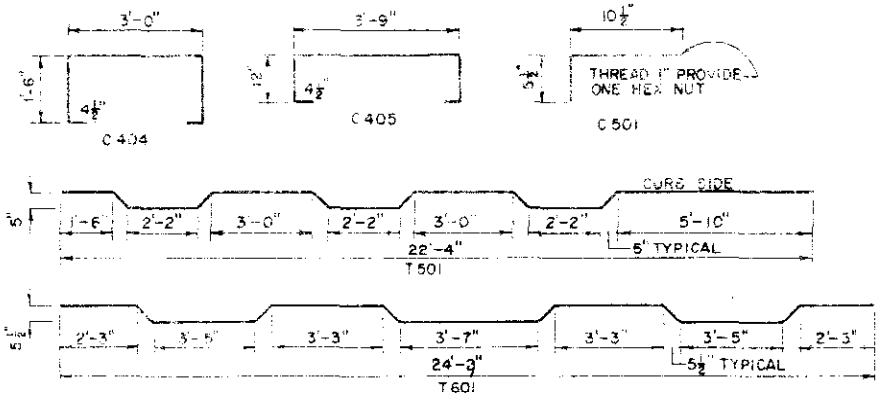
**SUPERSTRUCTURE SECTION NORTH SIDE**



**SUPERSTRUCTURE SECTION SOUTH SIDE**

1 LINE LONGITUDINAL STEEL  
I-D549 AND I-D550 IN SPAN NO. 1  
I-D549 ONLY IN SPAN NO. 2  
(R-2)

BY	DATE	REVISION



**BAR BENDING DETAILS**

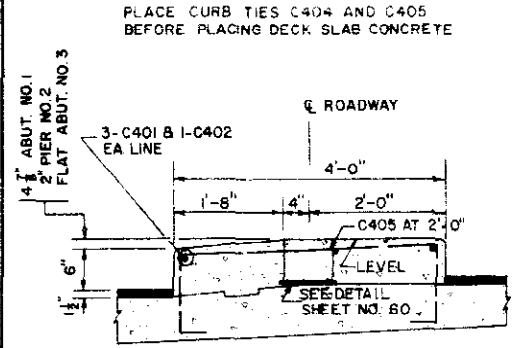
BAR LIST				
MARK	SIZE	SHAPE	REQD	LENGTH
C 401			39	47'-0"
C 402			13	12'-0"
C 403			128	2'-9"
C 404			128	6'-9"
C 405			64	6'-6"
D 501			256	1'-4"
D 502			512	22'-4"
T 501			254	23'-4"
D 503			256	24'-2"
THRU			4 EA	4'-3"
D 548			184	10'-0"
D 549			220	57'-6"
D 550			116	12'-0"
T 601			127	25'-2"
D 901			4	20'-0"
D 1001			4	22'-8"

BAR SUMMARY			
3,405 L FT	#4 AT 0.668	#/FT =	2,375
39,070 L FT	#5 AT 1.043	#/FT =	40,600
3,170 L FT	#6 AT 1.502	#/FT =	4,760
80 L FT	#9 AT 3.400	#/FT =	2,70
90 L FT	#10 AT 4.303	#/FT =	385
<b>TOTAL = 48,590</b>			

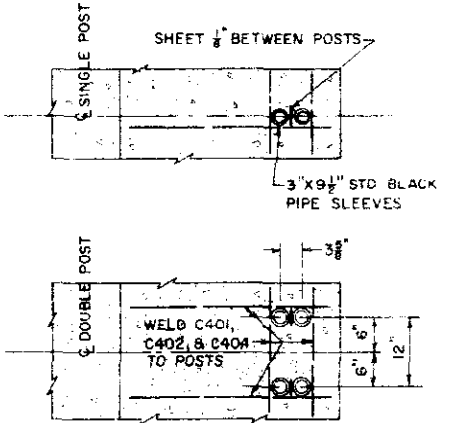
SUMMARY OF QUANTITIES			
ITEM	UNIT	DESCRIPTION	AMOUNT
403	TON	HBP (GR. E)	81 1/20
411	GAL	LIQ ASPH MATL (RC-800)	100 7/9
①509	L.S.	STR STEEL	L.S.
②509	L.S.	STR STEEL (GALV)	L.S.
210	LIN.FT.	RES RAILING	260
601	CUYD	CONCRETE CL A	253
602	LB	REINF STEEL 48,689	48,590
606	LIN.FT.	GD RAIL TY 3A (DOUBLE)	125
*-	SQ.FT.	1 EXP JT. MAT'L	363
*-	SQ.FT.	16 GA GALV. SHT. STEEL	207

THERE SHALL BE NO SEPARATE PAYMENT FOR ITEMS MARKED THUS (\*) PAYMENT THEREFORE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR ITEM 601 CONCRETE CL A.

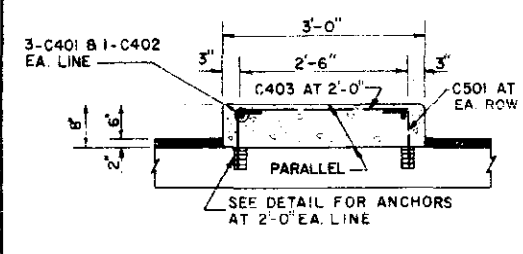
① DESIGN WEIGHT = 207,160 LB.  
② DESIGN WEIGHT = 1,775 LB.



**MEDIAN CURB DETAIL**



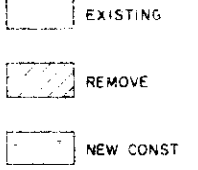
**EDGE CURB DETAIL**



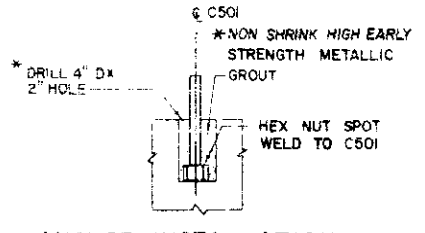
**BARRIER CURB DETAIL**

	ABUT NO. 1	PIER NO. 2	ABUT NO. 3
NORTH SLOPE	FLAT	.0061	.0114
ELEV. A	37.85	36.71	35.19
B		36.84	35.42
C		37.07	35.86
D	37.85	37.14	35.99

	ABUT NO. 1	PIER NO. 2	ABUT NO. 3
SOUTH SLOPE	.0210	.0187	.0183
ELEV. E	36.21	37.27	35.97
F	37.98	37.06	35.77
G	37.17	36.35	35.07
H	36.75	35.97	34.70



**LEGEND**



**ANCHOR INSTALLATION**

JEFFERSON ASSOCIATES  
CIVIL ENGINEERS

NORTH F-16-E1  
STRUCTURE NO. SOUTH F-16-EJ

**DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO**

**SUPERSTRUCTURE  
DETAILS**

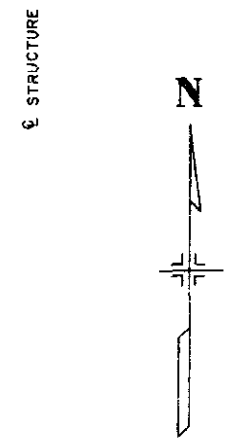
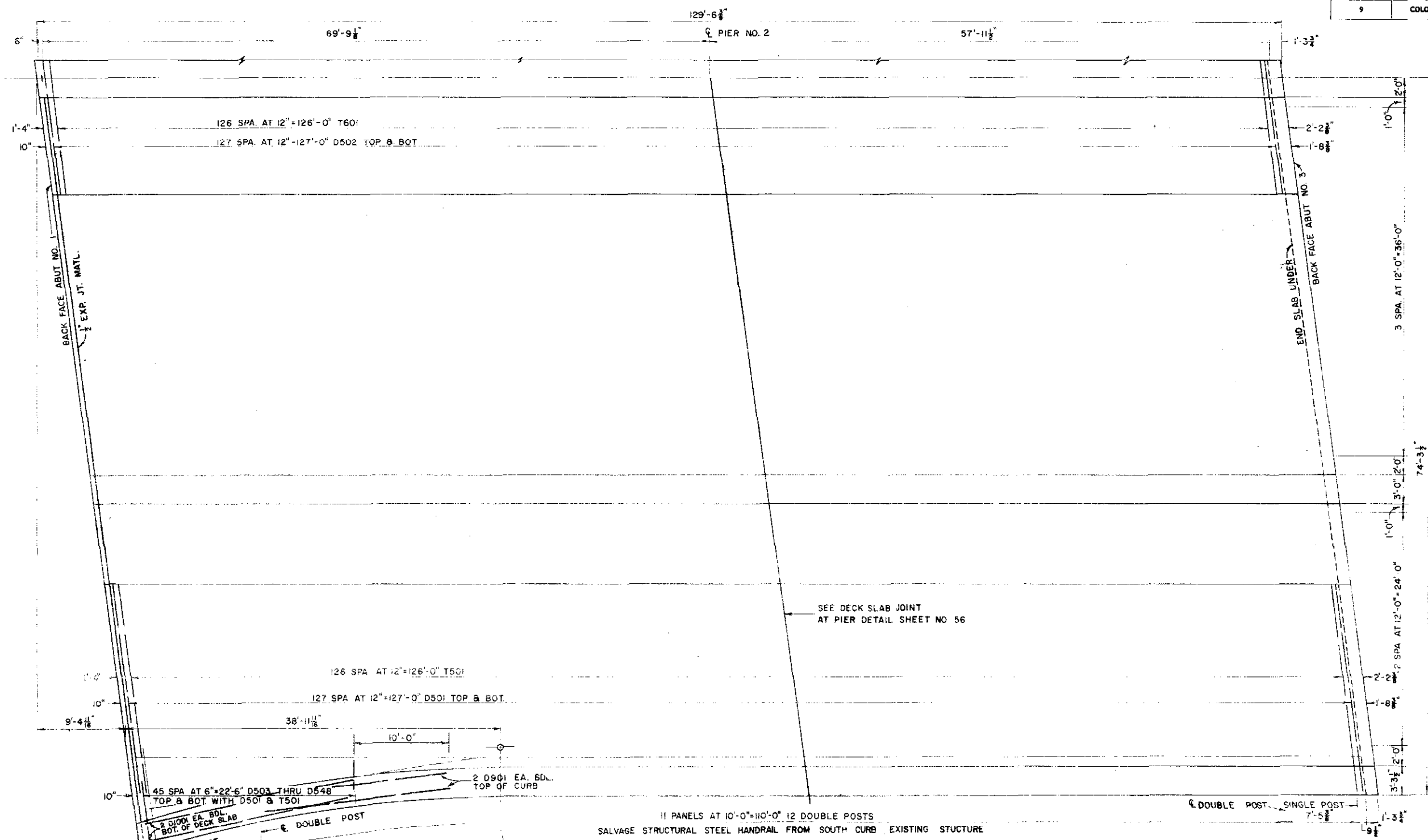
Across C.B.S. AND AT.G.S.F.R.R.  
Sta. 69+05.38 TO 70+35.37  
Near DENVER Sec. 48.9 T. 4S. R. 68W

Designed by T.V.S. Approved by  
Made by C.A.L. Bridge Engineer  
Checked by G.D.C. Date: 19

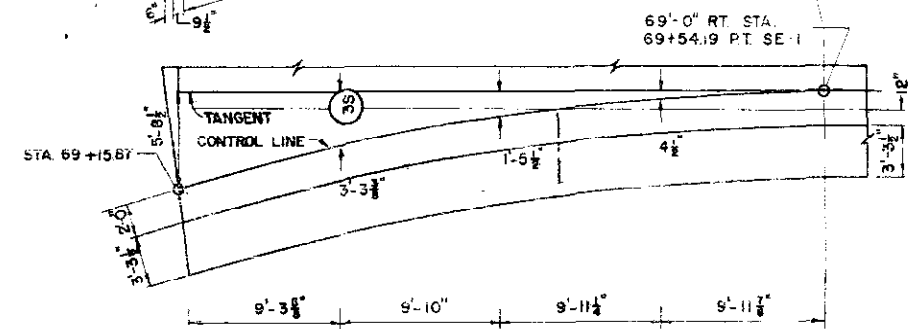


REVISIONS  
REVISIONS

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U-012-2 (13)	58	



DATE	BY	REVISION



JEFFERSON ASSOCIATES  
CIVIL ENGINEERS

DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO

DECK PLAN  
SOUTH BRIDGE

Across CBS AND AT & SF RR.  
Sta 69+05.83 TO 70+35.37  
Near DENVER Sec 489 T. 45 R. 68W

Designed by T.V.S.      Approved by  
Made by G.A.M.      Bridge Engineer  
Checked by G.D.C.      Date: 19

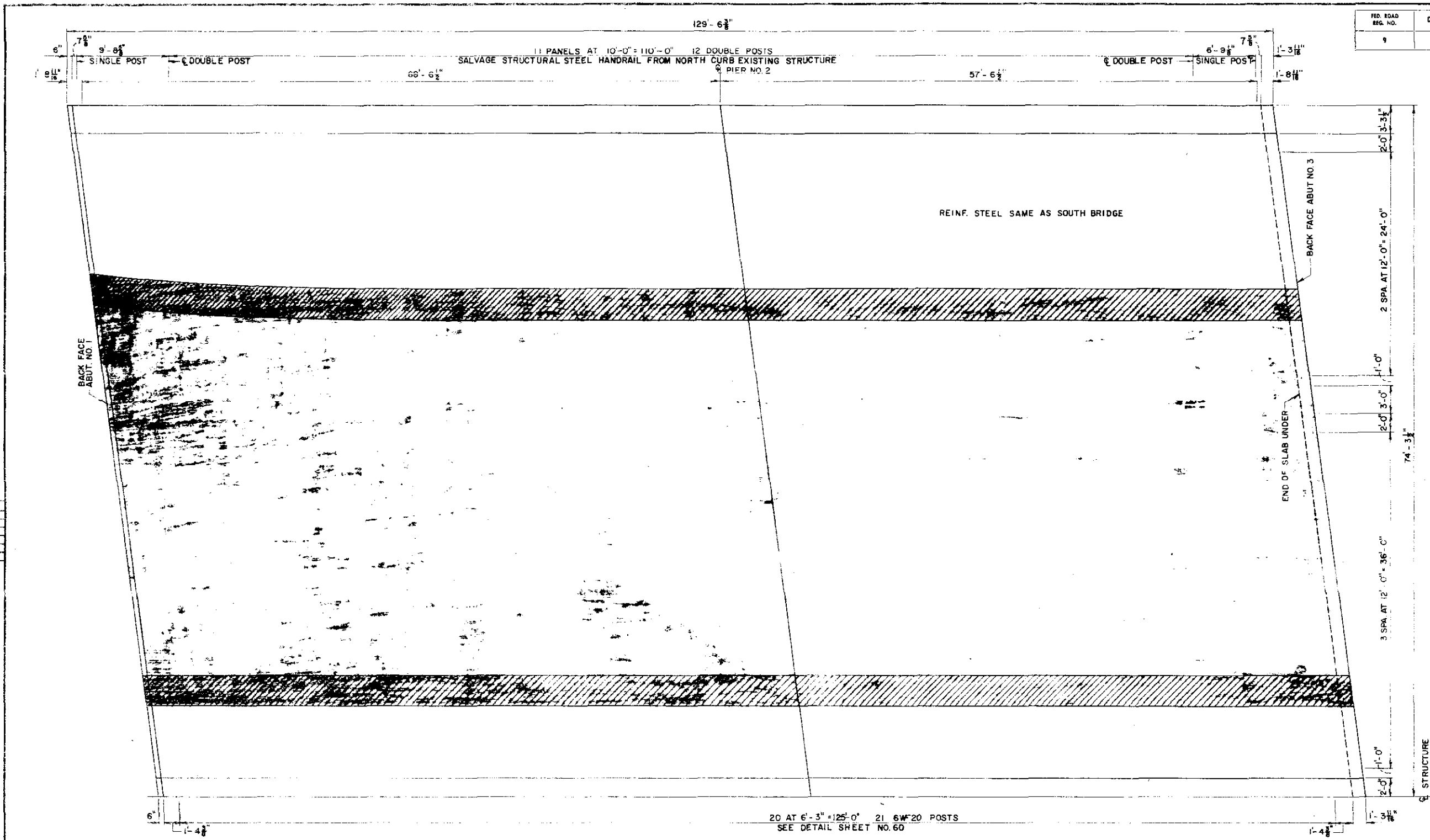
NORTH F-16-EI  
STRUCTURE NO. SOUTH F-16-EJ

REVISIONS

REVISIONS

DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO  
D.O.H. 137

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	UO12-2 (13)	59	



REV. NO.	DATE	BY	DESCRIPTION

20 AT 6'-3" = 125'-0" 21 6"x20" POSTS  
SEE DETAIL SHEET NO. 60

- EXISTING
- REMOVE
- NEW CONST.

LEGEND

NORTH F-16-EI  
STRUCTURE NO. SOUTH F-16-EJ

JEFFERSON ASSOCIATES  
CIVIL ENGINEERS

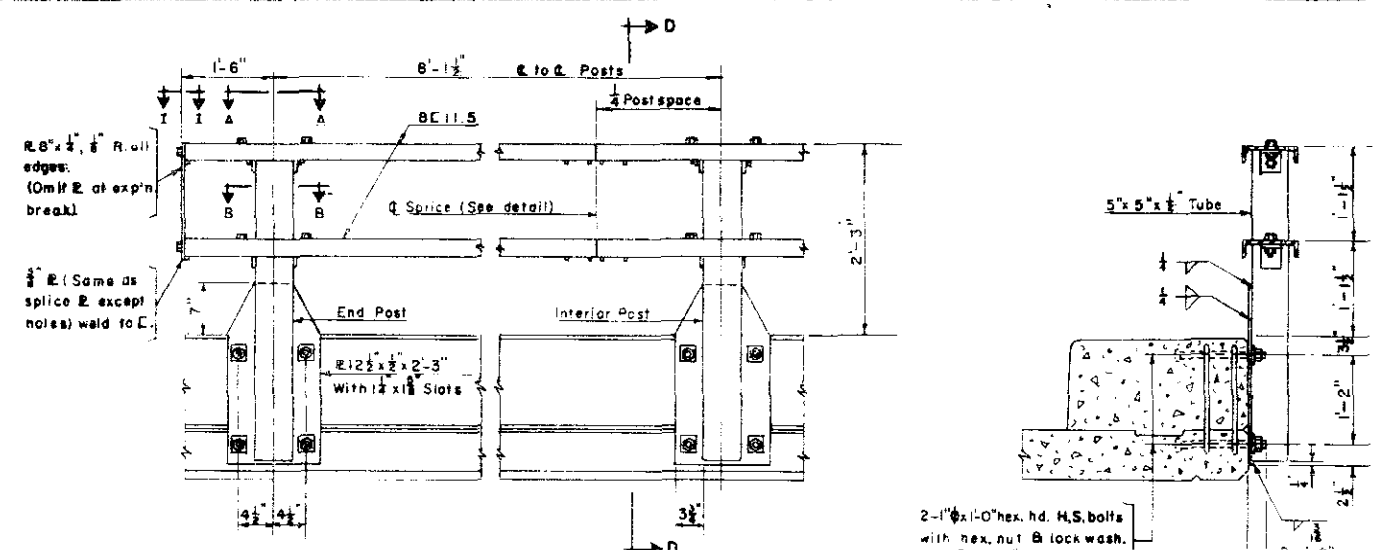
**DEPARTMENT OF HIGHWAYS  
STATE OF COLORADO**

**DECK PLAN  
NORTH BRIDGE**

Across C.B.S. AND A.T.&S.F. R.R.  
Sta. 69+05.38 TO 70+36.37  
Near DENVER Sec. 489 T. 45 R. 69W

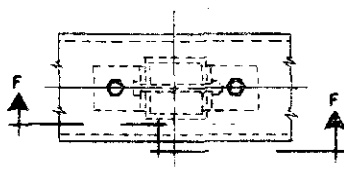
Designed by T.V.S.      Approved by \_\_\_\_\_  
Made by F.F.J.              Bridge Engineer  
Checked by G.D.C.      Date: \_\_\_\_\_ 19\_\_

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	UC12-21137	60	

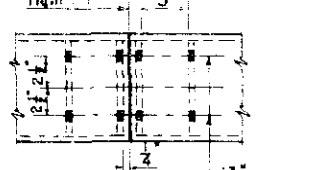


ELEVATION

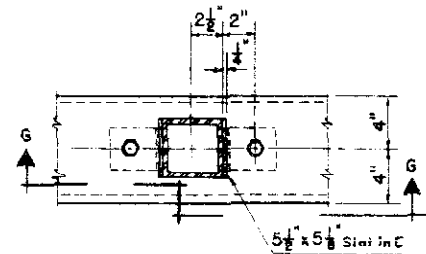
SECTION D-D



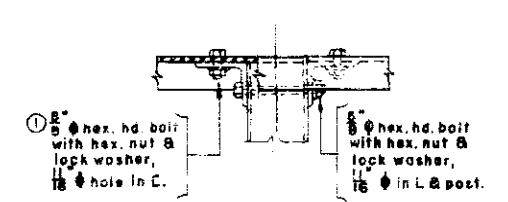
SECTION A-A



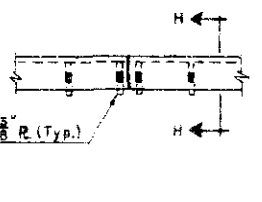
SPLICE PLAN



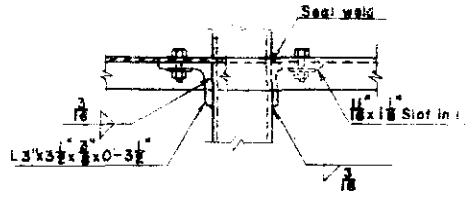
SECTION B-B



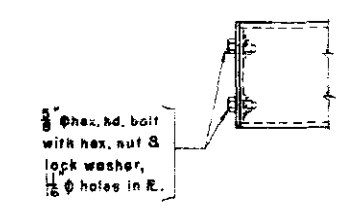
SECTION F-F



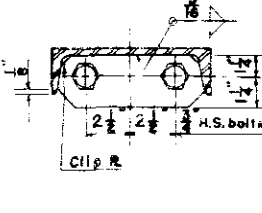
SPLICE DETAIL



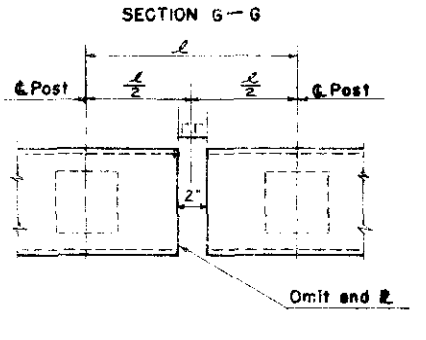
SECTION G-G



SECTION I-I



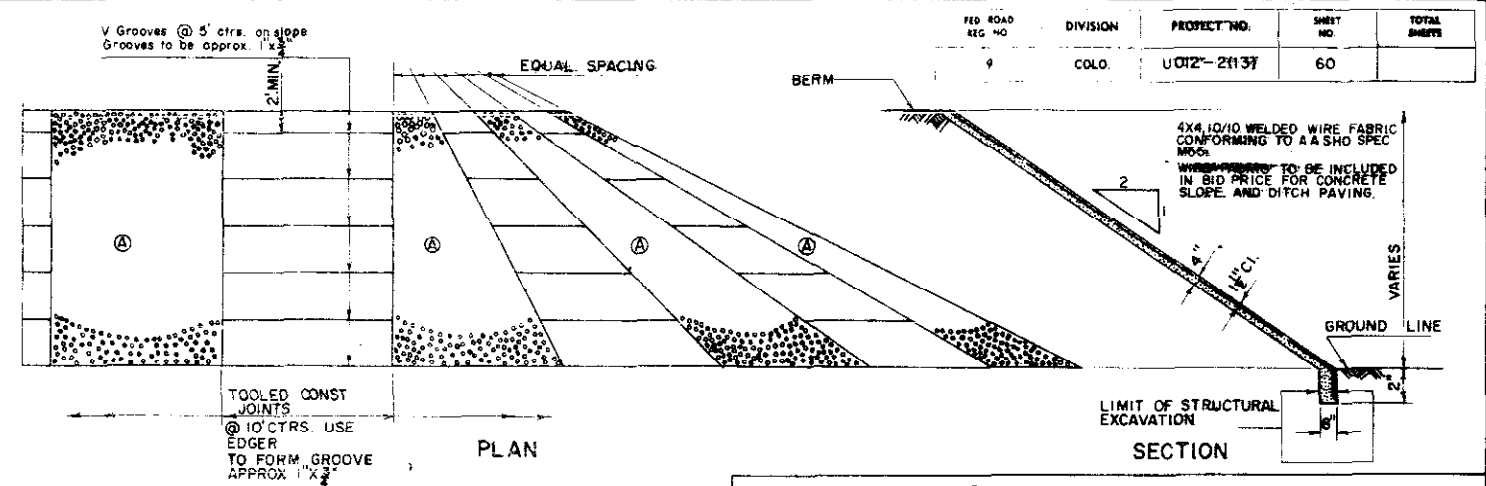
SECTION H-H



DETAIL AT EXP'N. BREAK

Notes:  
 5/8x3/8 tube with  $f_y = 50,000$  psi may be used in lieu of the posts shown.  
 Posts to be perpendicular to the grade and slope of deck.  
 All rail elements to be galvanized after fabrication in accordance with specifications.  
 A.I.S.I. 1144 steel rods may be used in lieu of H.S. bolts shown.  
 10° wedge test not required for either bolts or rods used in rail assembly.  
 5/8" standard full threaded studs welded to the channel, may be used. Increase size of slot in the angle to 13/16x1/4".  
 Channels to be continuous over 3 or 4 posts before splicing.

GALVANIZED STEEL HANDRAIL DETAILS

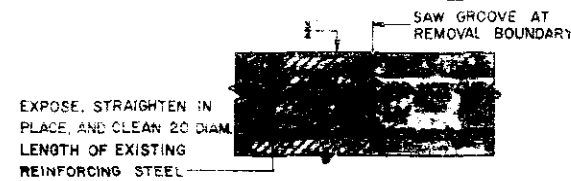


PLAN

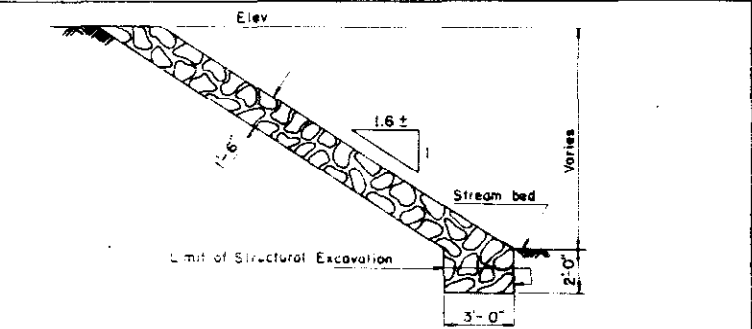
SECTION

NOTE: SLOPE PAVING SHALL BE POURED IN 10' TRANSVERSE SECTIONS WITH A TOOLED CONSTRUCTION JOINT AT EACH SECTION.  
 MESH TO BE 2' FROM END OF JOINT AND SHALL LAP 4" AT SPLICE.  
 PANELS MARKED WITH (A) ARE TO RECEIVE AN EXPOSED AGGREGATE FINISH. THE EXPOSED AGGREGATE FINISH SHALL BE MADE BY ADDING 2 OUNCES OF AN APPROVED RETARDER PER SACK OF CEMENT TO THE CONCRETE MIX BEING USED IN THE EXPOSED AGGREGATE FINISH PANELS.  
 AFTER THE CONCRETE IS STRUCK TO GRADE, THE SURFACE SHALL BE SPRAYED WITH AN APPROVED RETARDER AT THE RATE OF APPROXIMATELY ONE GALLON PER 100 SQ. FT. OF SURFACE AREA.  
 THE SURFACE SHALL THEN BE SPRAYED WITH A CURING COMPOUND AND ALLOWED TO SET FROM 4 TO 8 HOURS. THE SETTING TIME SHALL BE AS DETERMINED BY THE ENGINEER.  
 AFTER SETTING FOR THE PRESCRIBED TIME, THE SURFACE SHALL BE BROOMED AND WASHED WITH WATER TO EXPOSE THE AGGREGATE. THE EXPOSED AGGREGATE FINISH SHALL THEN BE SPRAYED WITH A CLEAR CURING COMPOUND IN ALL CASES THE EXPOSED AGGREGATE FINISH SHALL BE STARTED ON THE FIRST PANEL FACING ONCOMING TRAFFIC.  
 ALL WORK NECESSARY BY THESE REQUIREMENTS SHALL BE INCLUDED IN THE BID PRICE FOR ITEM NO. 507.

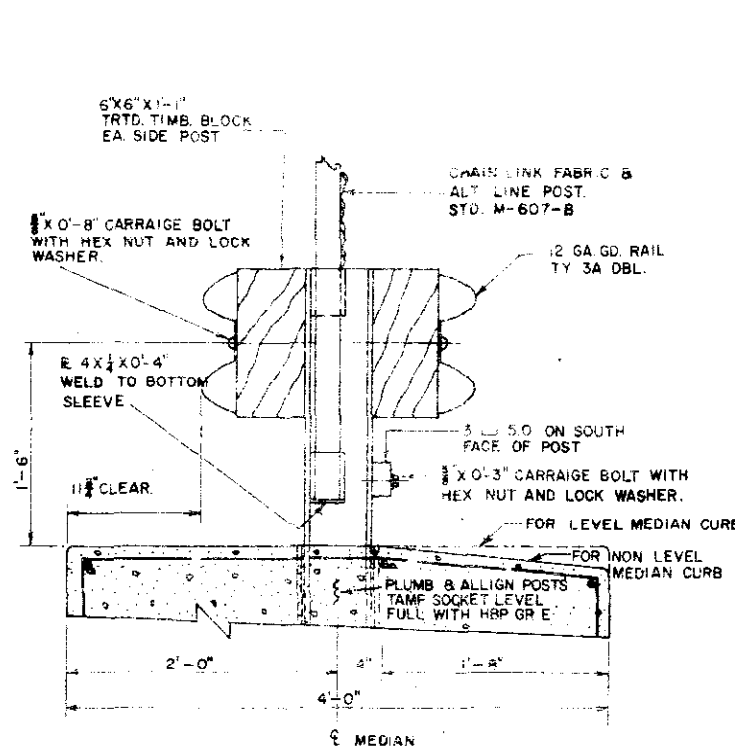
CONCRETE SLOPE & DITCH PAVING DETAILS



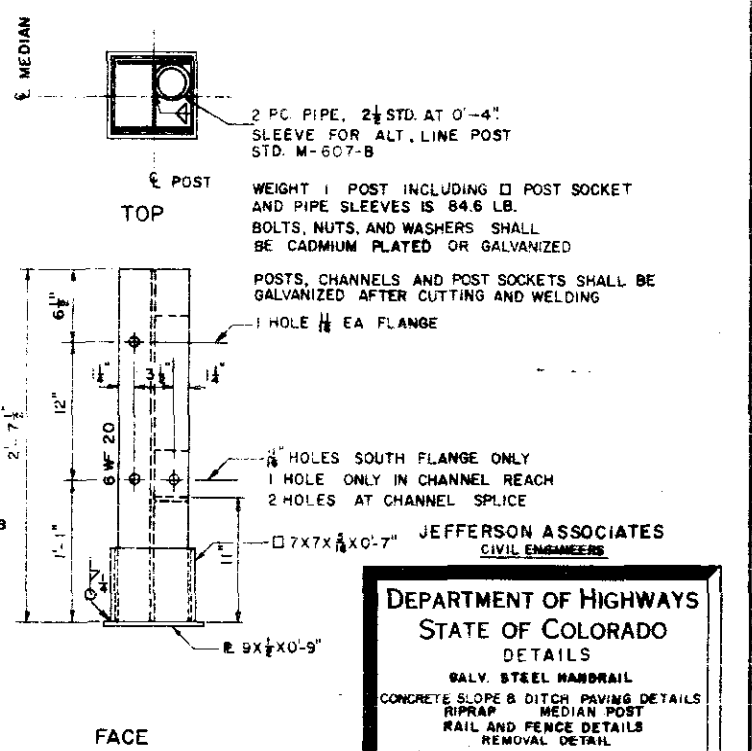
CONCRETE REMOVAL DETAIL AT ACCESSIBLE SURFACES



RIPRAP DETAILS



MEDIAN RAIL AND FENCE ERECTION DIAGRAM



MEDIAN POST DETAILS

MEDIAN POSTS, RAIL & FENCE

NORTH F-16-EM  
 SOUTH F-16-EN  
 STRUCTURE NO.

JEFFERSON ASSOCIATES  
 CIVIL ENGINEERS

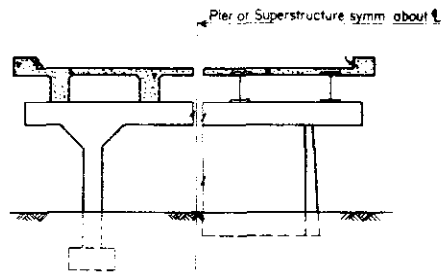
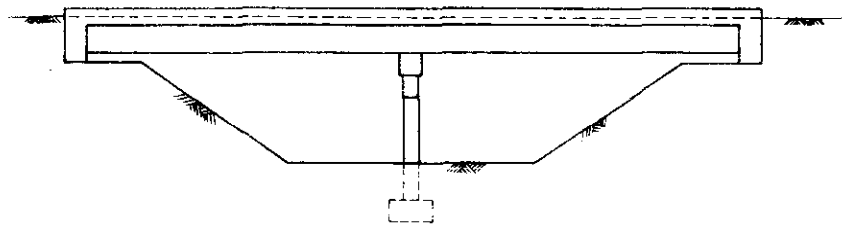
DEPARTMENT OF HIGHWAYS  
 STATE OF COLORADO  
 DETAILS

GALV. STEEL HANDRAIL  
 CONCRETE SLOPE & DITCH PAVING DETAILS  
 RIPRAP  
 MEDIAN POST  
 RAIL AND FENCE DETAILS  
 REMOVAL DETAIL

STANDARD FOR PROJECT UC12-2(13)  
 Sps. 46 + 66.72 TO 70 + 35.27  
 Near DENVER Sec. 4.5A9 T. 4S. R. 68W

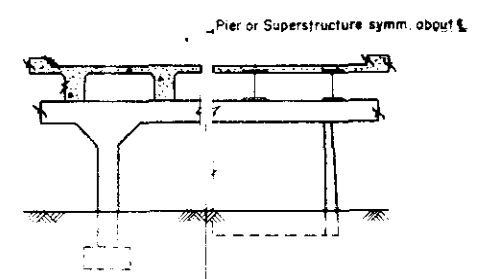
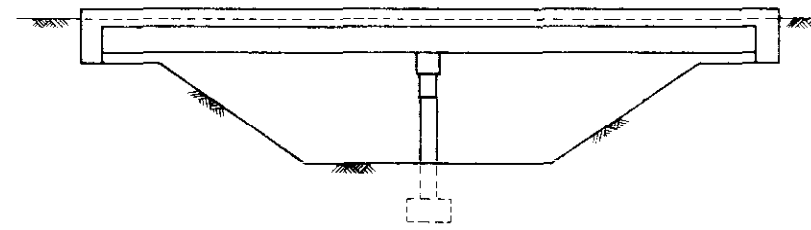
Designed by \_\_\_\_\_ Approved by \_\_\_\_\_  
 Made by \_\_\_\_\_ Bridge Engineer  
 Checked by \_\_\_\_\_ Date: \_\_\_\_\_

FED. ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 012-2(13)	61	



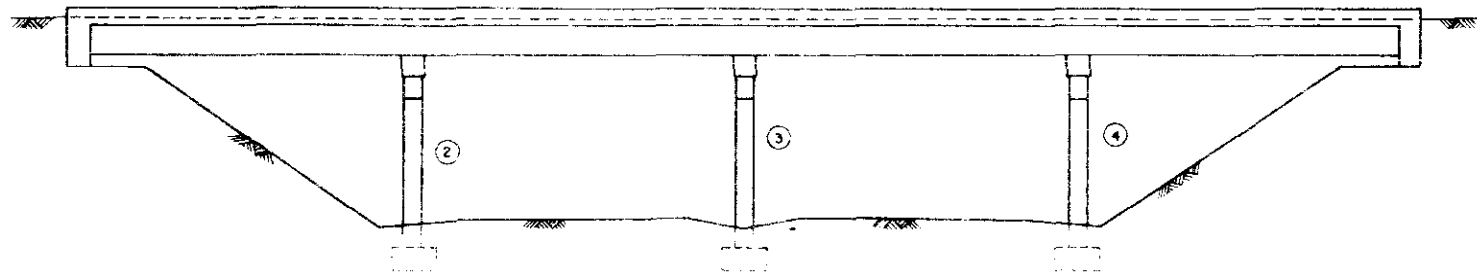
PIER AND SUPERSTRUCTURE

RURAL STREAM CROSSING

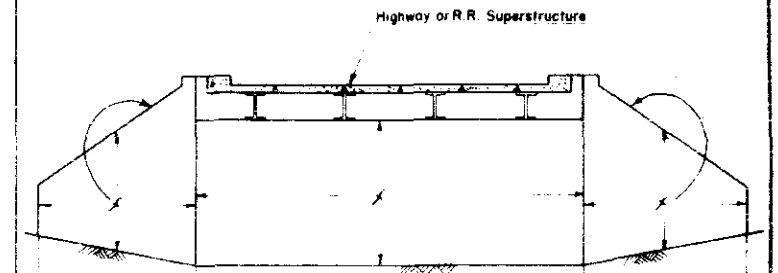


PIER AND SUPERSTRUCTURE

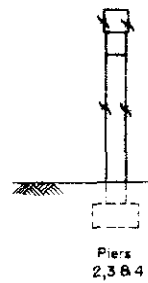
STREAM CROSSING IN OR NEAR URBAN AREA



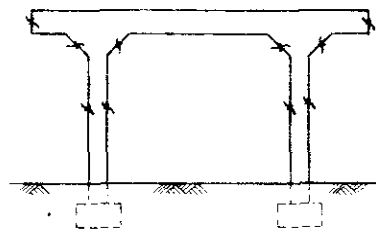
STUB ABUTMENTS  
(Underpass Only)



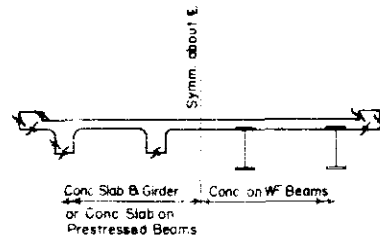
CANTILEVER ABUTMENTS  
(Underpass Only)



Piers  
2, 3 & 4



All Piers



Superstructure

In case of round columns the whole column shall receive Class 2 finish on all Piers.

UNDERPASS

**COLORADO**  
DEPARTMENT OF HIGHWAYS

DETAILS SHOWING PORTIONS OF  
STRUCTURE TO RECEIVE CLASS 2  
SURFACE FINISH.

Across *All Structures*

Near \_\_\_\_\_ Sta. \_\_\_\_\_

Sec. \_\_\_\_\_ T. \_\_\_\_\_ R. \_\_\_\_\_

Designed by A.D.N. Approved by \_\_\_\_\_  
Made by R.R.A.-J.B. Bridge Engineer  
Checked by \_\_\_\_\_ Date: \_\_\_\_\_ 19\_\_

STRUCTURE NO. \_\_\_\_\_

TRACING  
PLAIN

INITIAL	DATE