

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	UO12-2(13)	18	

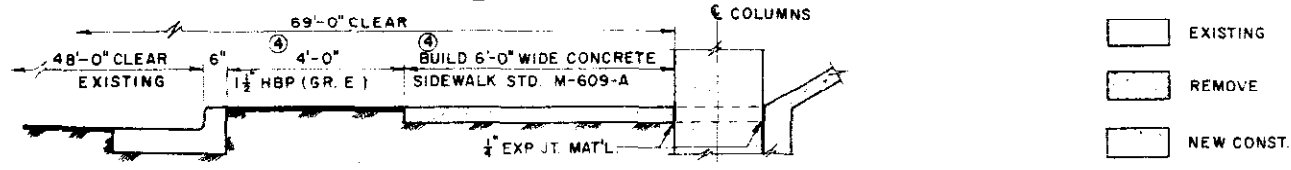
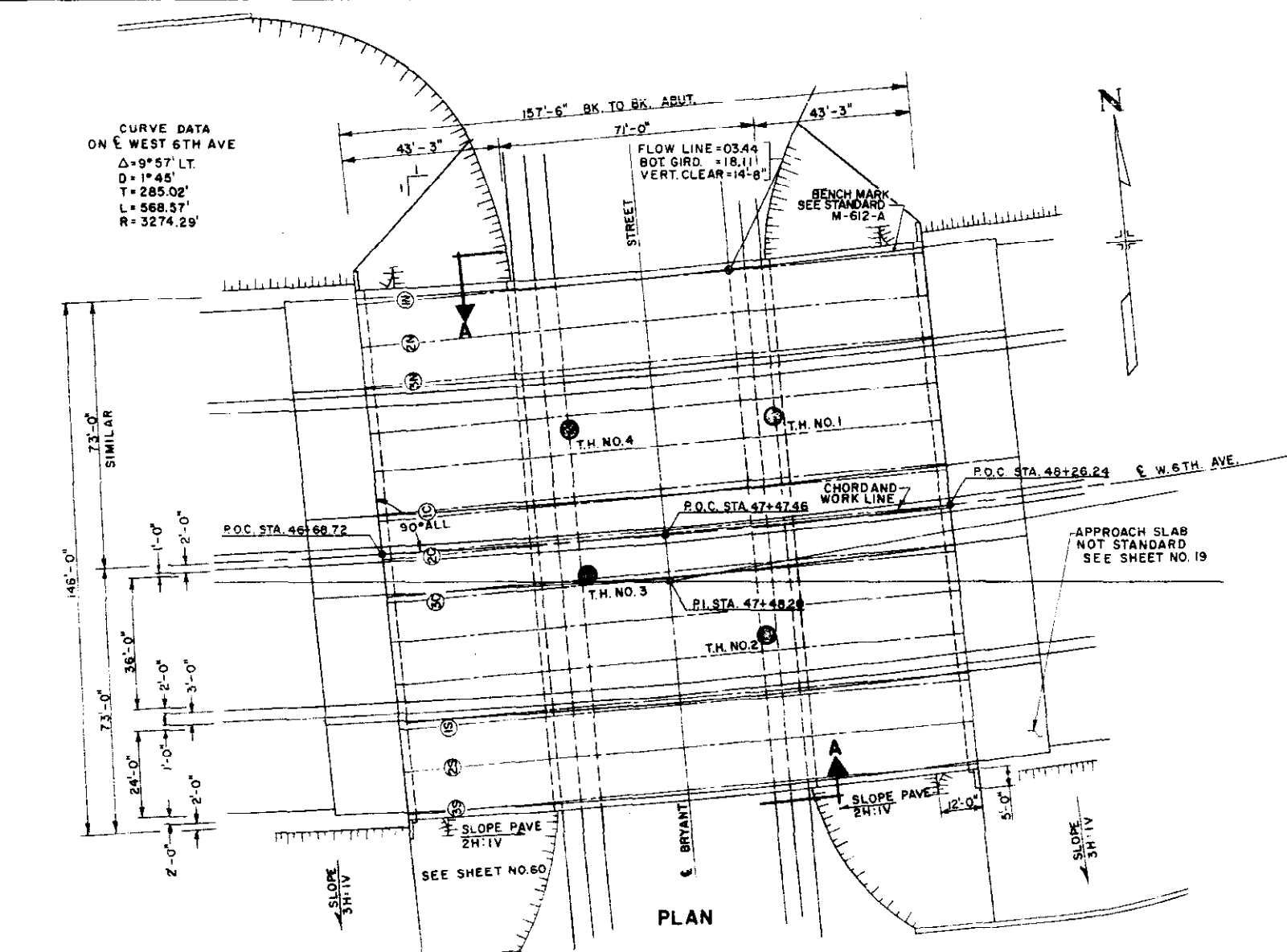
Steel Pile Cutoff
12-BP-53

Length	Location
1'	"
2'	"
3'	"
4'	"

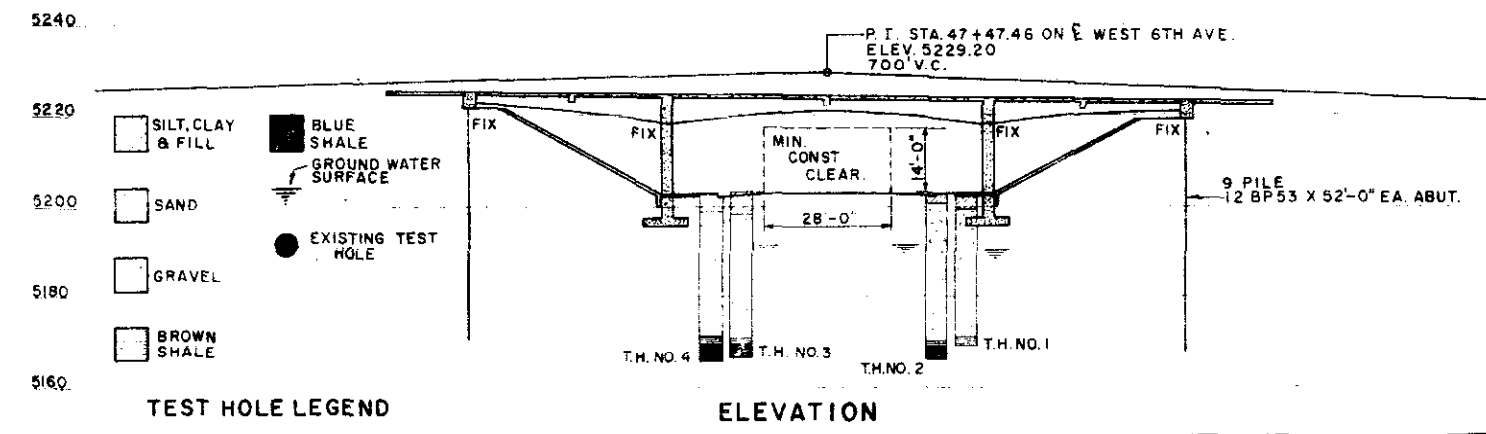
SUMMARY OF QUANTITIES						
ITEM	UNIT	DESCRIPTION	① ABUTS	PIERS	SUPERSTR.	TOTAL
202	EA.	REM PORT PRESENT STR.				2
206	CU. YD.	STR. EXCAV.	79	414		493
206	CU. YD.	STR. BKFL. (CL 3)	80	295		375
403	TON	HBP (GR E) HAUL & ASPH)	28 20		147 90	176 10
411	GAL.	LIQ ASPH. MATL (RC-800)	26 31		154 123	180 434
502	LIN. FT.	STEEL PILE (12BP53)	986 762			986 762
507	CU. YD.	CONC. SAND PAVE. (REINF)	190 237			190 237
509	L.S.	STR. STEEL (GALV.)				L.S.
601	CU. YD.	CONCRETE CL. A	85 144	446 153	689 722	910 1019
602	LB.	REINF. STEEL	18 195	26 415	197 885	241 795
606	LIN. FT.	GD. RAIL TY. 3A (DOUBLE)	50		150	200
613	LIN. FT.	1 1/2" ELEC. COND.			340 343	340 343
② -	SQ. FT.	EXP. JT. MAT'L		96	230	326
② -	SQ. FT.	EXP. JT. MAT'L			75	75
607	LIN. FT.	FENCE CHAIN LINK (36 INCH)	50		150	200

① INCLUDES QUANTITIES FOR 2 APPROACH SLABS.
 THERE SHALL BE NO SEPARATE PAYMENT FOR ITEMS MARKED THUS (②).
 PAYMENT THEREFORE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR ITEM 601, CONCRETE CL. A.
 ③ DESIGN WEIGHT = 12,500 LB.
 Paid as per Suppliers Invoices 249,462 lbs

SHEET NO.	TITLE
18	GENERAL PLAN & ELEVATION
19	DETAILS ABUTMENT NO. 1 & 4
20	DETAILS PIER NO. 2 & 3
21	GIRDER DETAILS
22	SUPERSTRUCTURE DETAILS
23	DECK PLAN NORTH BRIDGE
24	DECK PLAN SOUTH BRIDGE



④ INCLUDE IN ROADWAY QUANTITIES FOR PAYMENT.



JEFFERSON ASSOCIATES
 CIVIL ENGINEERS

DEPARTMENT OF HIGHWAYS
 STATE OF COLORADO

GENERAL PLAN
 & ELEVATION

Across BRYANT ST. ON 6TH AVE.
 Sta. 46+68.72 TO 48+26.24
 Near DENVER Sec. 8 T. 4 S. R. 68 W.

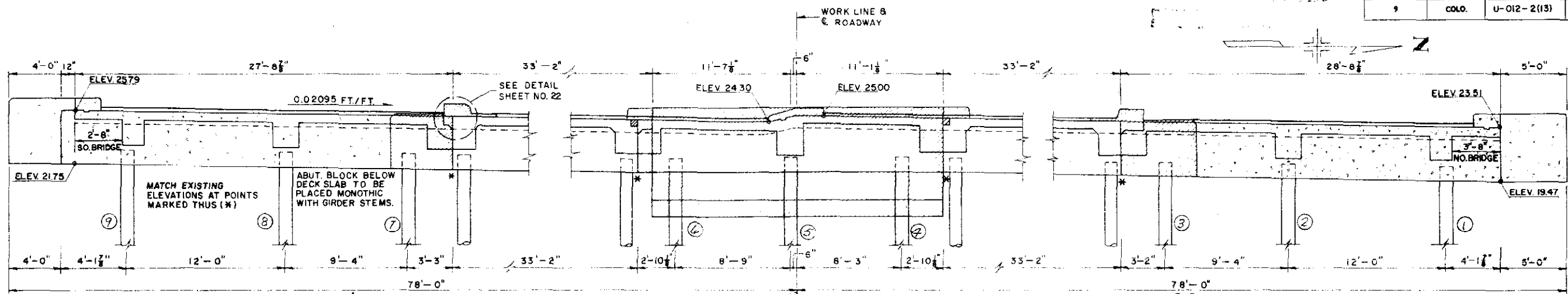
Designed by T.V.S. Approved by
 Made by W.J.P. Bridge Engineer
 Checked by G.D.C. Date: 19

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

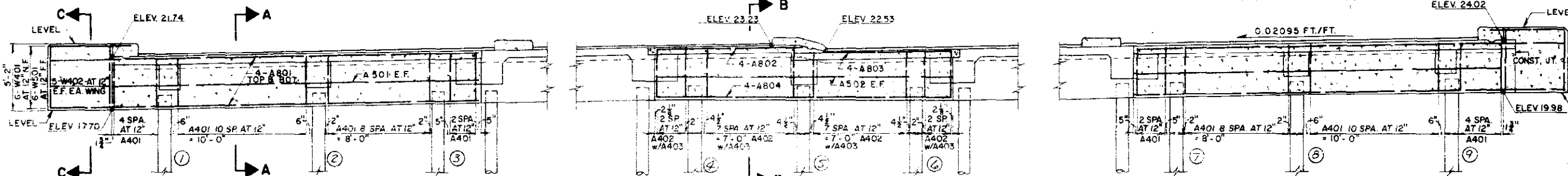
FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U-012-2(13)	19	

Summary of In Place Piling

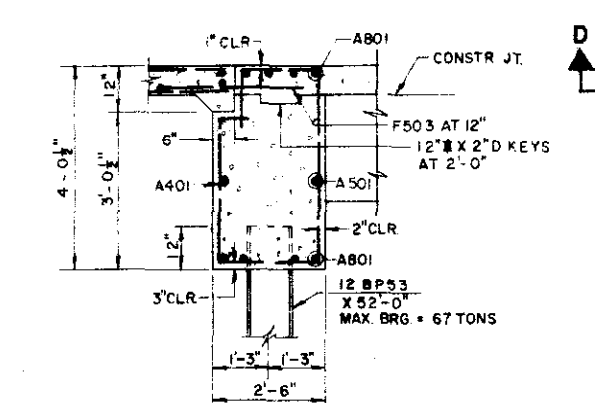
Abut No	Piling No	Length In Place
1	1	52'
	2	51'
	3	52'
	4	53'
	5	55'
	6	53'
	7	51'
	8	53'
	9	53'
4	1	50'
	2	49'
	3	52'
	4	51'
	5	51'
	6	50'
	7	51'
	8	50'
	9	52'



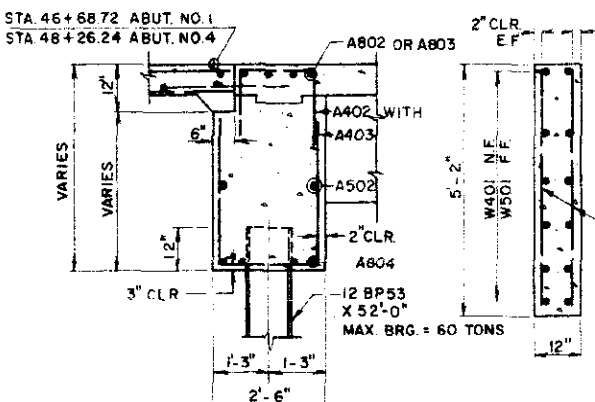
ELEVATION ABUTMENT NO. 1



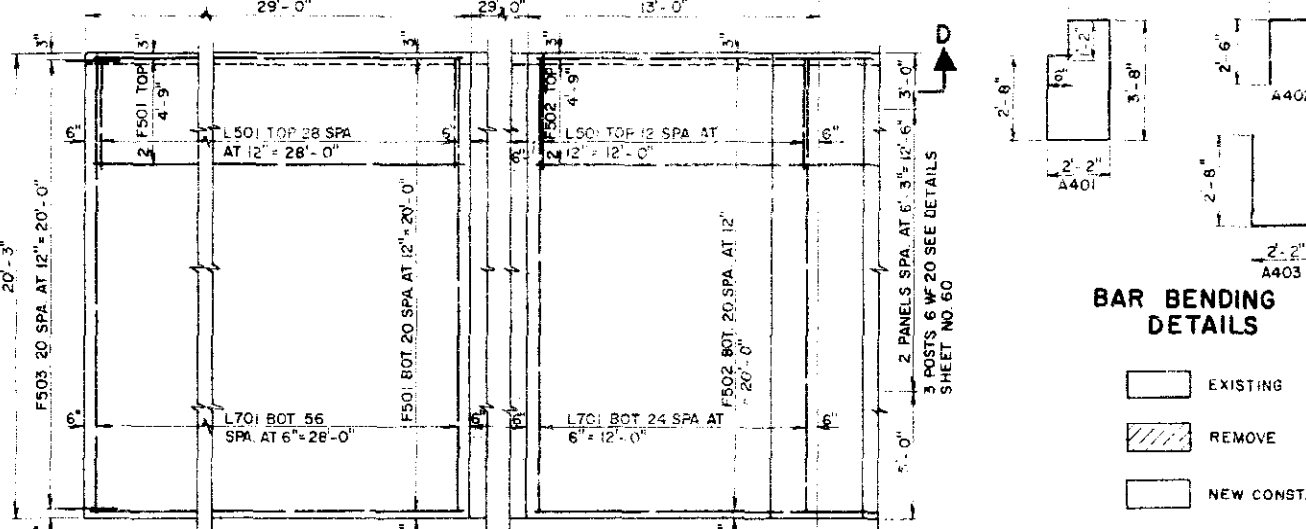
ELEVATION ABUTMENT NO. 4



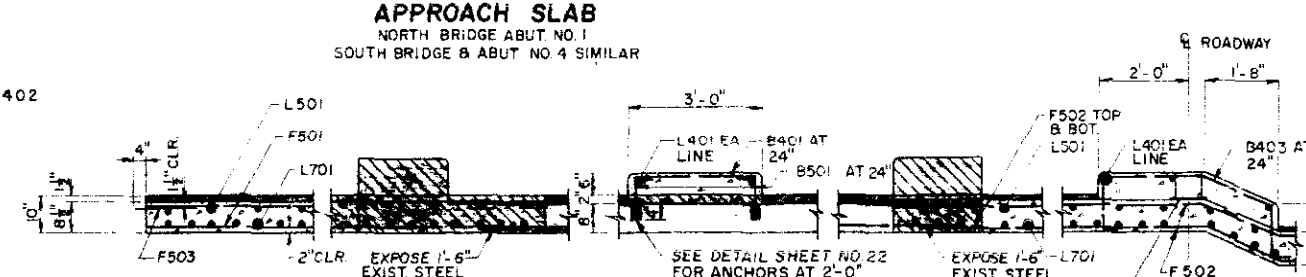
SECTION A-A



SECTION B-B SECTION C-C

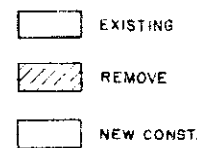


PLAN APPROACH SLAB



SECTION D-D

BAR BENDING DETAILS



LEGEND

BAR LIST

MARK	SIZE	SHAPE	NO REQD	LENGTH
A401	4		112	11'-10"
A402	4		44	6'-8"
A403	4		44	7'-6"
L401	4		14	20'-0"
B401	4		44	2'-9"
B403	4		22	6'-6"
W401	4		24	6'-0"
W402	4		40	4'-10"

① SUMMARY OF QUANTITIES

ITEM	UNIT	DESCRIPTION	AMOUNT
403	TON	H.B.P. (GR E)	20.20
411	GAL.	LIQ. ASPH. MATL. (RC-800)	31.86
509	LS	STR. STEEL (GALV.)	LS
601	CU YD	CONC. CL. A	144.00
602	LB	REINF. STEEL	28,667
606	LIN FT.	GD. RAIL TY. 3A DOUBLE	10,106

② 2 APPROACH SLABS
DESIGN WEIGHT = 510 LB.

③ SUMMARY OF QUANTITIES

ITEM	UNIT	DESCRIPTION	AMOUNT
206	CU YD	STR. EXCAV.	79
206	CU YD	STR. BKFL. (CL. 3)	80
502	LIN FT.	STEEL PILE (12 BP 53)	2,206
507	CU YD	CONC. S.B.D. PAVE. (REINF)	237.190

③ 2 ABUTMENTS

④ BAR SUMMARY

545 LF #4 AT 0.668 #/FT =	365
5195 LF #5 AT 1.043 #/FT =	5,420
6560 LF #7 AT 2.044 #/FT =	13,410
TOTAL =	19,195 LB

JEFFERSON ASSOCIATES
CIVIL ENGINEERS

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO

DETAILS
ABUTMENT NO. 1 & 4

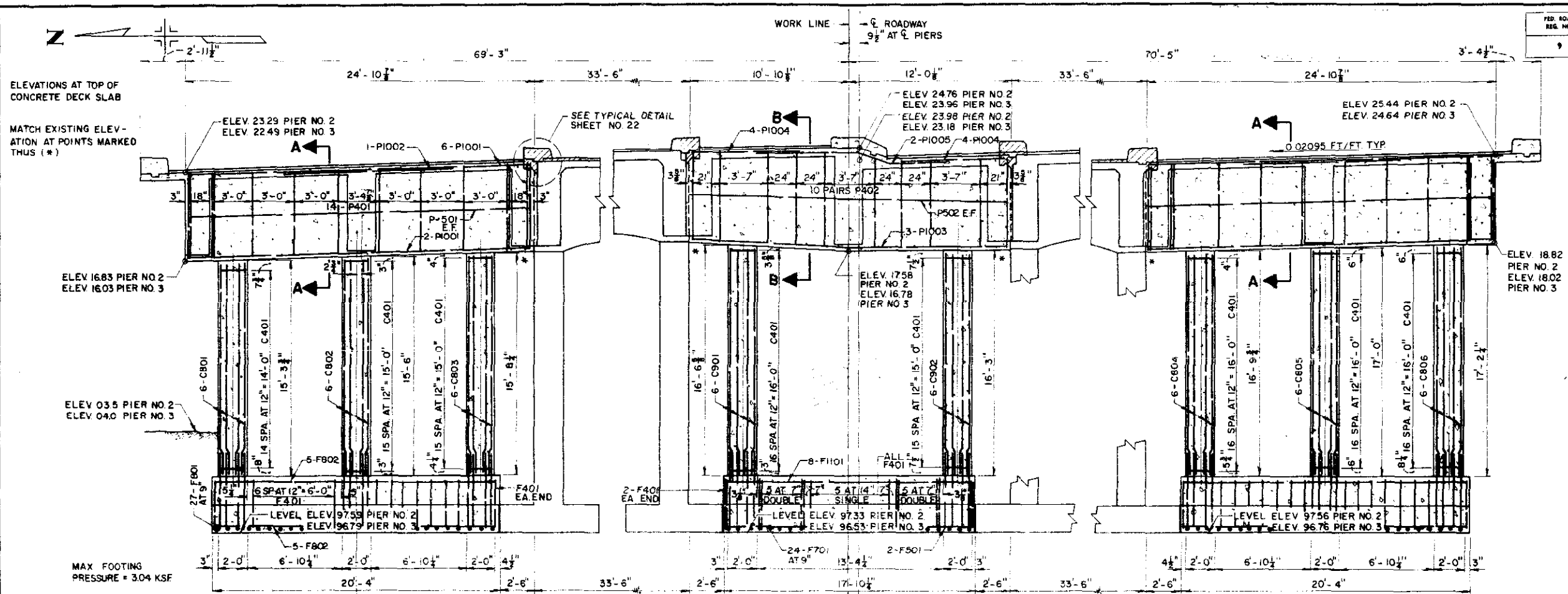
Across BRYANT ST. ON 6TH AVE.
Sta. 46+68.72 TO 48+26.24
Near DENVER Sec. 8 T. 4S. R. 68W

Designed by GDC
Made by R.L.
Checked by TVS

Approved by
Bridge Engineer
Date: 19

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

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U-012-2(13)	20	



① BAR LIST

MARK	SIZE	SHAPE	NO REQ'D	LENGTH
P401	4	□	56	16'-5"
P402	4	□	40	9'-7"
F401	4	□	132	12'-4"
C401	4	○	262	6'-6"
PI005	10		4	11'-10"
HI101	11		144	5'-0"
F801	8		108	10'-6"
F802	8		40	20'-0"
D801	8		72	5'-5"
C801	8		12	15'-0"
C802	8		12	15'-3"
C803	8		12	15'-5"
C804	8		12	16'-6"
C805	8		12	16'-9"
C806	8		12	17'-0"
PI001	10		32	24'-8"
PI002	10		4	17'-0"
PI004	10		8	24'-8"
F701	7		48	9'-6"
F501	5		4	17'-7"
FI101	11		16	17'-7"
D901	9		24	5'-9"
C901	9		12	16'-3"
C902	9		12	16'-0"
PI003	10		6	17'-7"
PI004	10		16	7'-6"
PS02	5		4	17'-7"

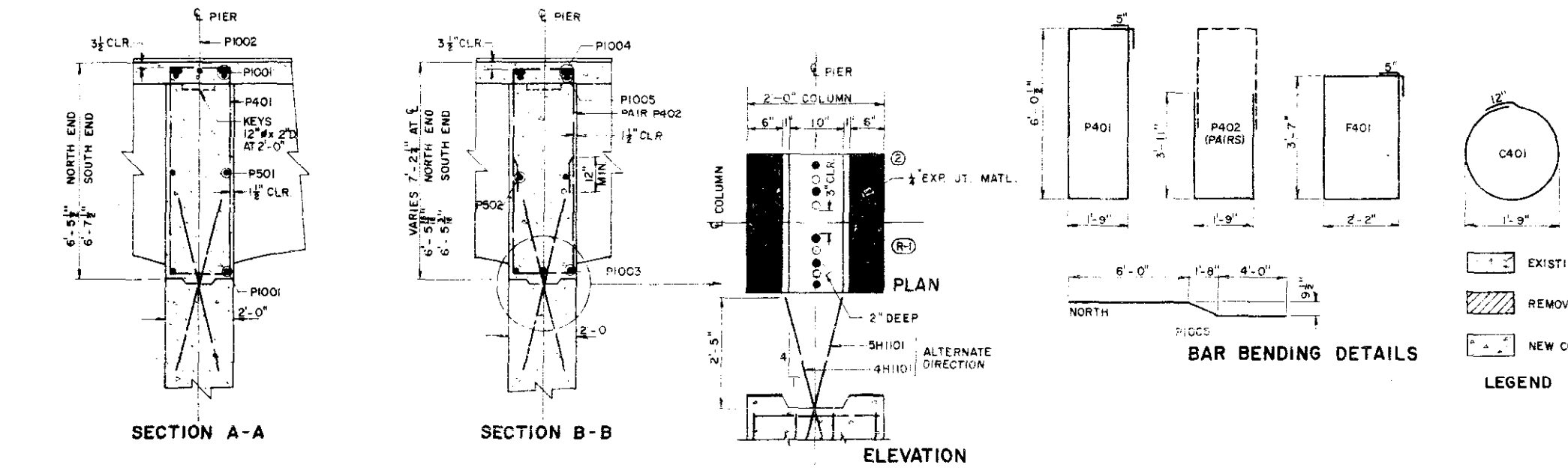
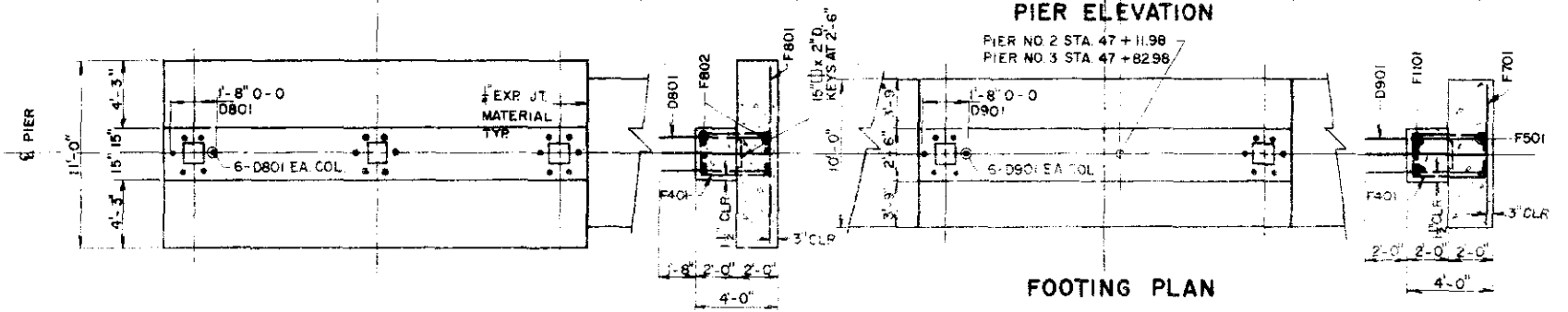
① BAR SUMMARY

4635	L F #4	AT 0.668 #/FT.	=	3095
340	L F #5	AT 1.043 #/FT.	=	355
455	L F #7	AT 2.044 #/FT.	=	930
3475	L F #8	AT 2.670 #/FT.	=	9280
525	L F #9	AT 3.400 #/FT.	=	1785
1105	L F #10	AT 4.303 #/FT.	=	4755
1000	L F #11	AT 5.313 #/FT.	=	5315
				TOTAL = 25,515

① SUMMARY OF QUANTITIES

ITEM	UNIT	DESCRIPTION	AMOUNT
206	CU YD.	STR. EXCAV.	414
206	CU YD.	STR. BKFL. (CL. 3)	295
601	CU YD.	CONCRETE CL. A	153,148
602	LB	REINF. STEEL 26 #3/	28,516
②	SQ FT.	1" EXP. JT. MATL.	96

① FOR 2 PIERS
THERE SHALL BE NO SEPARATE PAYMENT FOR ITEMS MARKED THUS ②. PAYMENT THEREFORE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR ITEM 601, CONCRETE CL. A.



JEFFERSON ASSOCIATES
CIVIL ENGINEERS

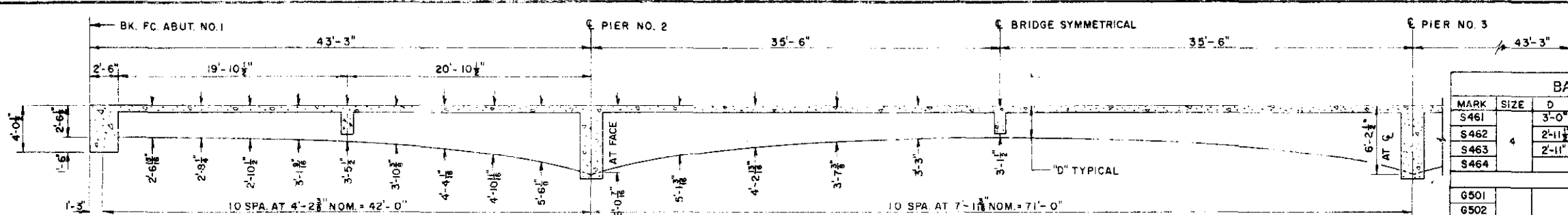
DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DETAILS
PIER NO. 2 & 3

Across BRYANT STREET ON 6th AVE
Sta 46+88.72 TO 48+26.24
Near DENVER Sec. 8 T. 4 S. R. 68 W.

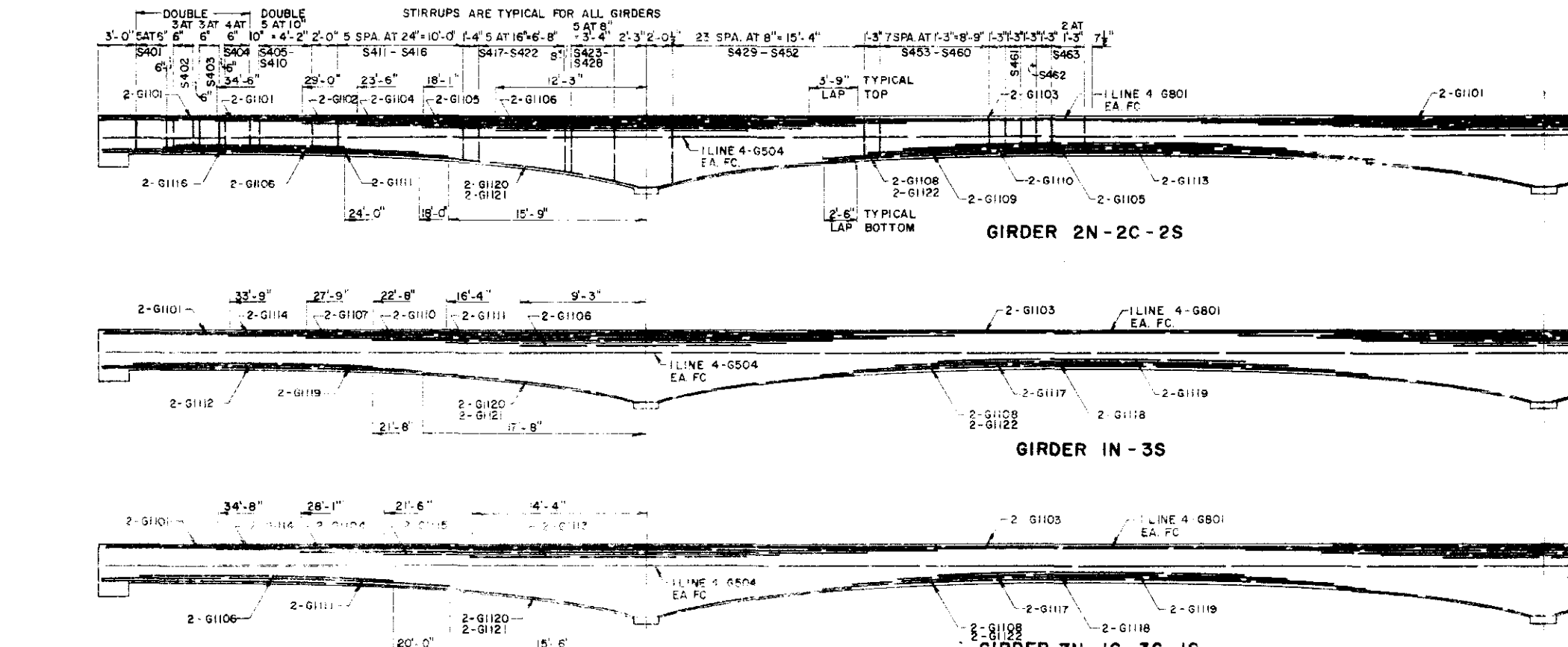
Designed by T.V.S. Approved by
Made by W.J.P. Bridge Engineer
Checked by G.D.C. Date: 19

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

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U-012-2(13)	21	



BAR LIST						BAR LIST					
MARK	SIZE	D	SHAPE	NO. REQD	LENGTH	MARK	SIZE	D	SHAPE	NO. REQD	LENGTH
S461	3-0"			36	6'-1"	S401	2-4"			216	6'-9"
S462	2-11"			18	6'-0"	S402	2-4"			144	6'-10"
S463	2-11"			54	7'-11"	S403	2-5"			144	6'-11"
S464	2-11"			212	2'-1"	S404	2-5"			180	7'-0"
G501				12	24'-9"	S405	2-6"			36	7'-2"
G502				6	23'-0"	S406	2-7"				7'-4"
G503				102	6'-9"	S407	2-8"				7'-5"
G504				72	40'-0"	S408	2-8"				7'-6"
						S409	2-9"				7'-7"
						S410	2-10"			36	7'-9"
G801	8			72	40'-0"	S411	2-11"			18	7'-11"
						S412	3-1"				8'-3"
G1101				48	60'-0"	S413	3-3"				8'-7"
G1102				12	49'-9"	S414	3-4"				8'-10"
G1103				18	44'-9"	S415	3-7"				9'-4"
G1104				28	40'-0"	S416	3-9"				9'-8"
G1105				18	30'-6"	S417	3-11"				10'-0"
G1106				48	20'-3"	S418	4-1"				10'-4"
G1107				6	47'-0"	S419	4-3"				10'-7"
G1108				18	47'-2"	S420	4-4"				10'-10"
G1109				6	45'-10"	S421	4-6"				11'-1"
G1110				14	37'-9"	S422	4-8"				11'-5"
G1111				36	27'-6"	S423	4-9"				11-8"
G1112				6	17'-0"	S424	4-11"				12'-0"
G1113				22	22'-6"	S425	5-1"				12'-4"
G1114				24	58'-5"	S426	5-3"				12-8"
G1115				16	34'-4"	S427	5-4"				12-10"
G1116				12	13'-3"	S428	5-6"				13'-1"
G1117				12	36'-0"	S429	5-8"				13-4"
G1118				12	31'-4"	S430	5-8"				13-7"
G1119				20	25'-6"	S431	5-9"				13-11"
G1120				36	60'-0"	S432	6-1"				14'-1"
G1121				36	54'-0"	S433	6-2"				14'-5"
G1122				18	59'-2"	S434	6-4"				14'-9"
						S435	6-6"				15'-1"
						S436	6-8"				15'-5"
						S437	6-10"				15'-9"
						S438	6-12"				16'-1"
						S439	6-14"				16'-5"
						S440	6-16"				16'-9"
						S441	6-18"				17'-1"
						S442	6-20"				17'-5"
						S443	6-22"				17'-9"
						S444	6-24"				18'-1"
						S445	6-26"				18'-5"
						S446	6-28"				18'-9"
						S447	6-30"				19'-1"
						S448	6-32"				19'-5"
						S449	6-34"				19'-9"
						S450	6-36"				20'-1"
						S451	6-38"				20'-5"
						S452	6-40"				20'-9"
						S453	6-42"				21'-1"
						S454	6-44"				21'-5"
						S455	6-46"				21'-9"
						S456	6-48"				22'-1"
						S457	6-50"				22'-5"
						S458	6-52"				22'-9"
						S459	6-54"				23'-1"
						S460	6-56"				23'-5"

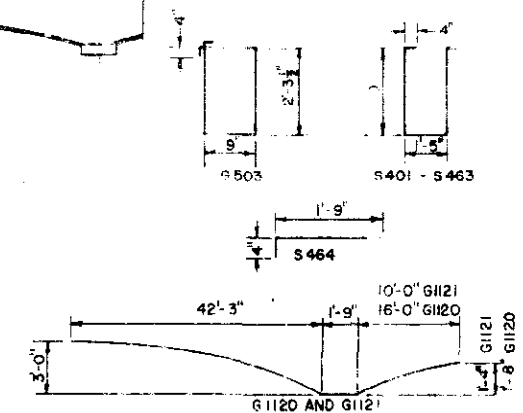


BAR SUMMARY					
17,175	L.F.	#4	AT	0.688	#/FT = 11,475
4,005	L.F.	#5	AT	1.043	#/FT = 4,175
2,890	L.F.	#8	AT	2.670	#/FT = 7,690
19,025	L.F.	#11	AT	5.313	#/FT = 40,080
TOTAL 424,420					

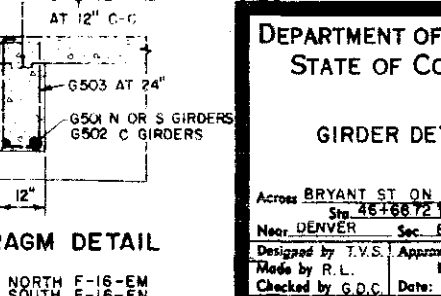
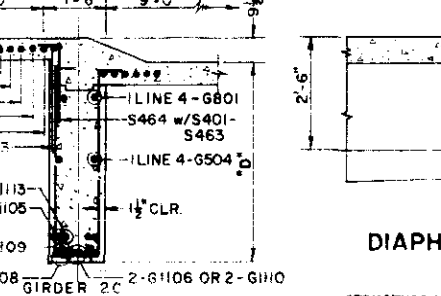
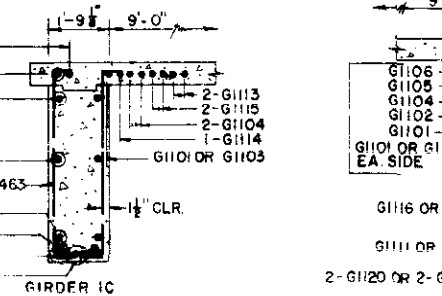
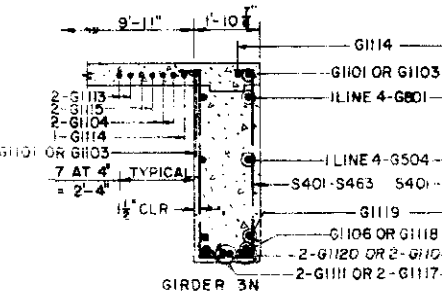
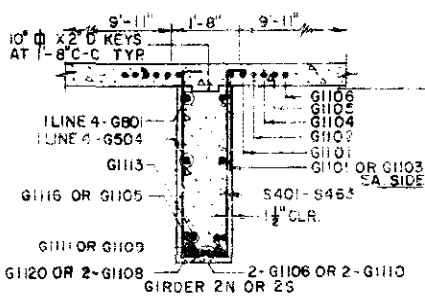
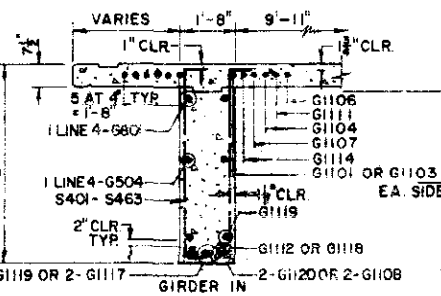
MARK	SIZE	D	SHAPE	NO. REQD	LENGTH
S436	4-11"				11'-1"
S437	4-9"				11'-8"
S438	4-9"				11'-7"
S439	4-8"				11'-5"
S440	4-7"				11'-3"
S441	4-6"				11'-1"
S442	4-5"				10'-11"
S443	4-4"				10'-9"
S444	4-3"				10'-7"
S445	4-2"				10'-5"
S446	4-1"				10'-3"
S447	4-0"				10'-1"
S448	3-11"				10'-0"
S449	3-11"				9'-9"
S450	3-10"				9'-9"
S451	3-9"				9'-7"
S452	3-8"				9'-6"
S453	3-7"				9'-5"
S454	3-5"				8'-11"
S455	3-4"				8'-10"
S456	3-4"				8'-9"
S457	3-3"				8'-7"
S458	3-2"				8'-5"
S459	3-1"				8'-1"
S460	3-1"			18	9'-5"

ELEVATIONS - TOP OF SLAB AT GIRDERS
(CORRECTED FOR DEAD LOAD DEFLECTION)

POINT GIRD.	C A1	C P2									C P3									C A4											
		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9												
1N	23.59	23.57	23.55	23.51	23.48	23.46	23.43	23.40	23.35	23.34	23.29	23.23	23.19	23.14	23.07	23.02	22.91	22.82	22.71	22.59	22.49	22.42	22.36	22.30	22.24	22.16	22.10	22.03	21.95	21.89	21.81
3N	24.08	24.06	24.04	24.00	23.97	23.95	23.92	23.89	23.85	23.81	23.78	23.72	23.68	23.63	23.56	23.51	23.40	23.34	23.20	23.08	22.98	22.91	22.85	22.79	22.73	22.65	22.59	22.52	22.44	22.38	22.30
1C	24.62	24.80	24.78	24.74	24.71	24.69	24.66	24.63	24.59	24.55	24.52	24.46	24.42	24.37	24.30	24.25	24.14	24.05	23.94	23.82	23.72	23.65	23.59	23.53	23.47	23.39	23.33	23.26	23.18	23.12	23.04
2C NORTH	25.04	25.02	25.00	24.96	24.93	24.91	24.88	24.85	24.81	24.77	24.74	24.68	24.64	24.59	24.52	24.47	24.36	24.27	24.16	24.04	23.94	23.87	23.81	23.75	23.69	23.61	23.55	23.48	23.40	23.34	23.26
3C	24.47	24.45	24.43	24.39	24.36	24.34	24.31	24.28	24.24	24.21	24.17	24.11	24.07	24.02	23.95	23.90	23.79	23.70	23.59	23.47	23.37	23.30	23.24	23.18	23.12	23.04	22.98	22.91	22.83	22.77	22.69
1S	25.21	25.19	25.17	25.13	25.10	25.08	25.05	25.02	24.98	24.93	24.91	24.85	24.81	24.76	24.69	24.64	24.53	24.44	24.33	24.21	24.11	24.04	23.98	23.92	23.86	23.78	23.72	23.65	23.57	23.51	23.43
3S	25.70	25.68	25.66	25.62	25.59	25.57	25.54	25.51	25.47	25.43	25.40	25.34	25.30	25.25	25.18	25.13	25.02	24.93	24.82	24.70	24.60	24.53	24.47	24.41	24.35	24.27	24.21	24.14	24.06	24.00	23.92



BAR BENDING DETAILS



DIAPHRAGM DETAIL

JEFFERSON ASSOCIATES
CIVIL ENGINEERS

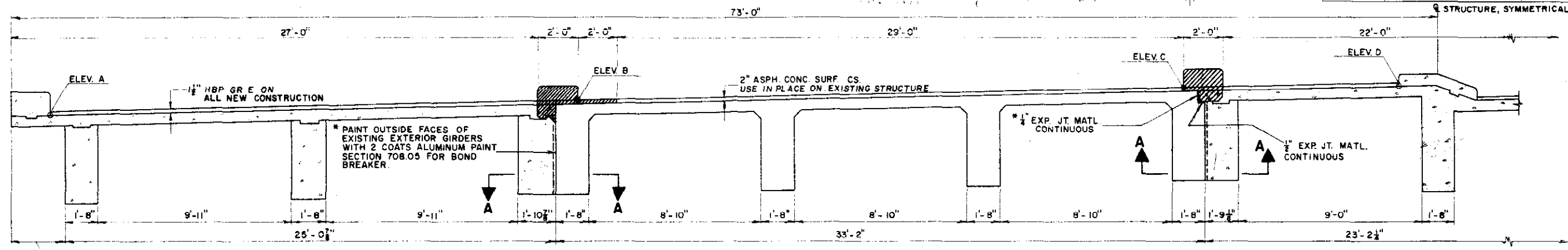
DEPARTMENT OF HIGHWAYS
STATE OF COLORADO

GIRDERS DETAILS

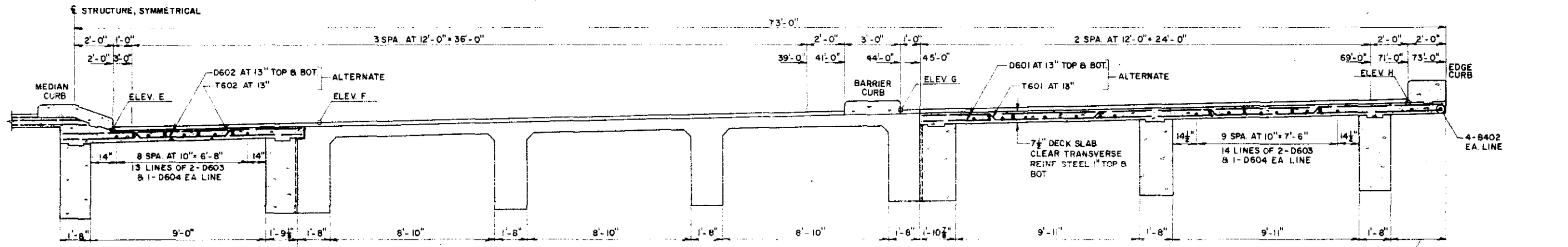
Across BRYANT ST ON 6TH AVE
Sta. 48+166.72 TO 48+262.84
Near DENVER Sec. 8 T.4S. R.68W

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

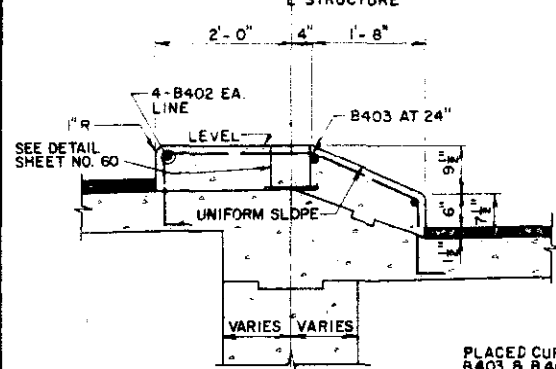
FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLD.	U 012-2(13)	22	



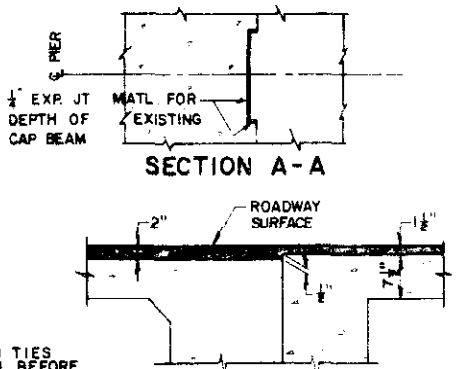
SUPERSTRUCTURE SECTION NORTH BRIDGE



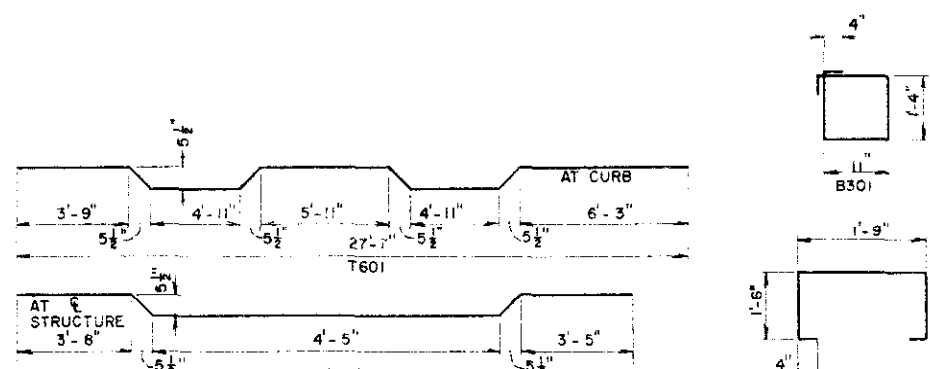
SUPERSTRUCTURE SECTION SOUTH BRIDGE



MEDIAN CURB DETAIL



SURFACING DETAIL



BAR BENDING DETAILS

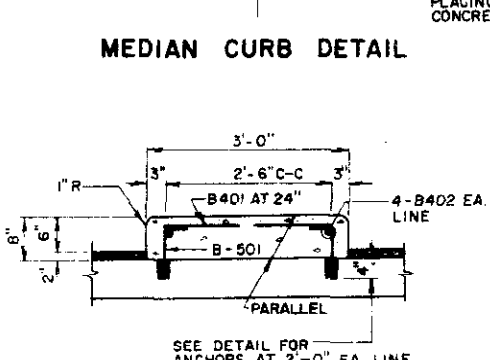
① BAR LIST

MARK	SIZE	SHAPE	NOREQ'D	LENGTH
B301	3		80	5'-2"
B401	4		158	2'-9"
B402	4		60	40'-0"
B403	4		79	6'-6"
B404	4		158	5'-5"
B501	5		316	1'-3 1/2"
D601	6		552	27'-7"
D602	6		552	12'-5"
D603	6		164	60'-0"
D604	6		82	39'-9"
T601	6		270	28'-4"
T602	6		270	12'-10"

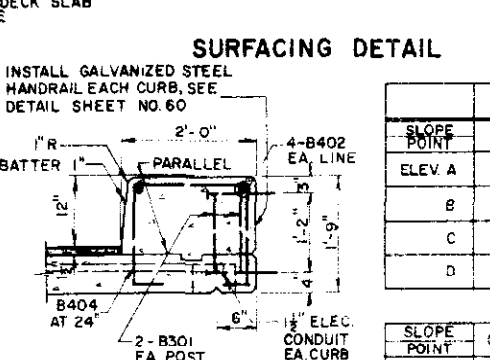
② SUMMARY OF QUANTITIES

ITEM	UNIT	DESCRIPTION	AMOUNT
403	TON	HBP (GR.E)	90.47
411	GAL.	LIQ. ASPH. MAT'L. (RC-800)	123.44
509	L.S.	STR. STEEL GALV.	L.S.
601	CU. YD.	CONCRETE CL. A	727.689
602	LB.	REINF. STEEL 120,369	107,006
606	LIN. FT.	SD RAIL TY. 3A (DOUBLE)	150
613	LIN. FT.	1/2" ELEC. CONDUIT	943.340
*	SQ. FT.	1/2" EXP. JT. MATL.	230
*	SQ. FT.	1/2" EXP. JT. MATL.	75

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.
② DESIGN WEIGHT = 11,990 LB.



BARRIER CURB DETAIL



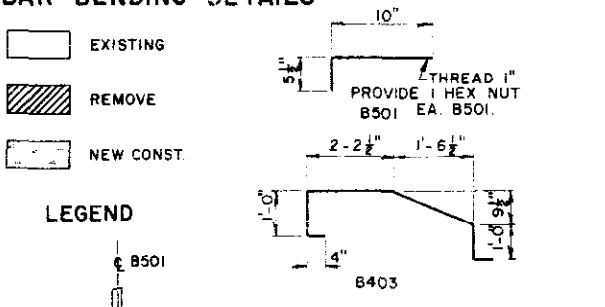
EDGE CURB DETAIL

NORTH BRIDGE

SLOPE POINT	ABUT. NO. 1	PIER NO. 2	PIER NO. 3	ABUT. NO. 4
ELEV. A	23.55	23.28	22.48	21.78
B	24.24	23.97	23.17	22.46
C	24.88	24.62	23.83	23.12
D	25.00	24.73	23.93	23.23

SOUTH BRIDGE

SLOPE POINT	ABUT. NO. 1	PIER NO. 2	PIER NO. 3	ABUT. NO. 4
ELEV. E	24.30	24.03	23.23	22.53
F	24.66	24.40	23.59	22.87
G	25.31	25.04	24.24	23.54
H	25.75	25.48	24.68	23.98



ANCHOR INSTALLATION

③ BAR SUMMARY

415 LF #3 AT 0.376 #/FT.	=	155
6495 LF #4 AT 0.668 #/FT.	=	4340
895 LF #5 AT 1.043 #/FT.	=	935
46,294 LF #6 AT 1.502 #/FT.	=	69,535
1295 LF #8 AT 2.670 #/FT.	=	3460
TOTAL	=	78,425

③ INCLUDES 2 ABUTMENTS

JEFFERSON ASSOCIATES
CIVIL ENGINEERS

**DEPARTMENT OF HIGHWAYS
STATE OF COLORADO**

**SUPERSTRUCTURE
DETAILS**

Across BRYANT ST. ON 6th AVE.
Sta. 46+68.72 TO 48+26.24
Near DENVER Sec. 8 T. 4 S. R. 68 W.

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

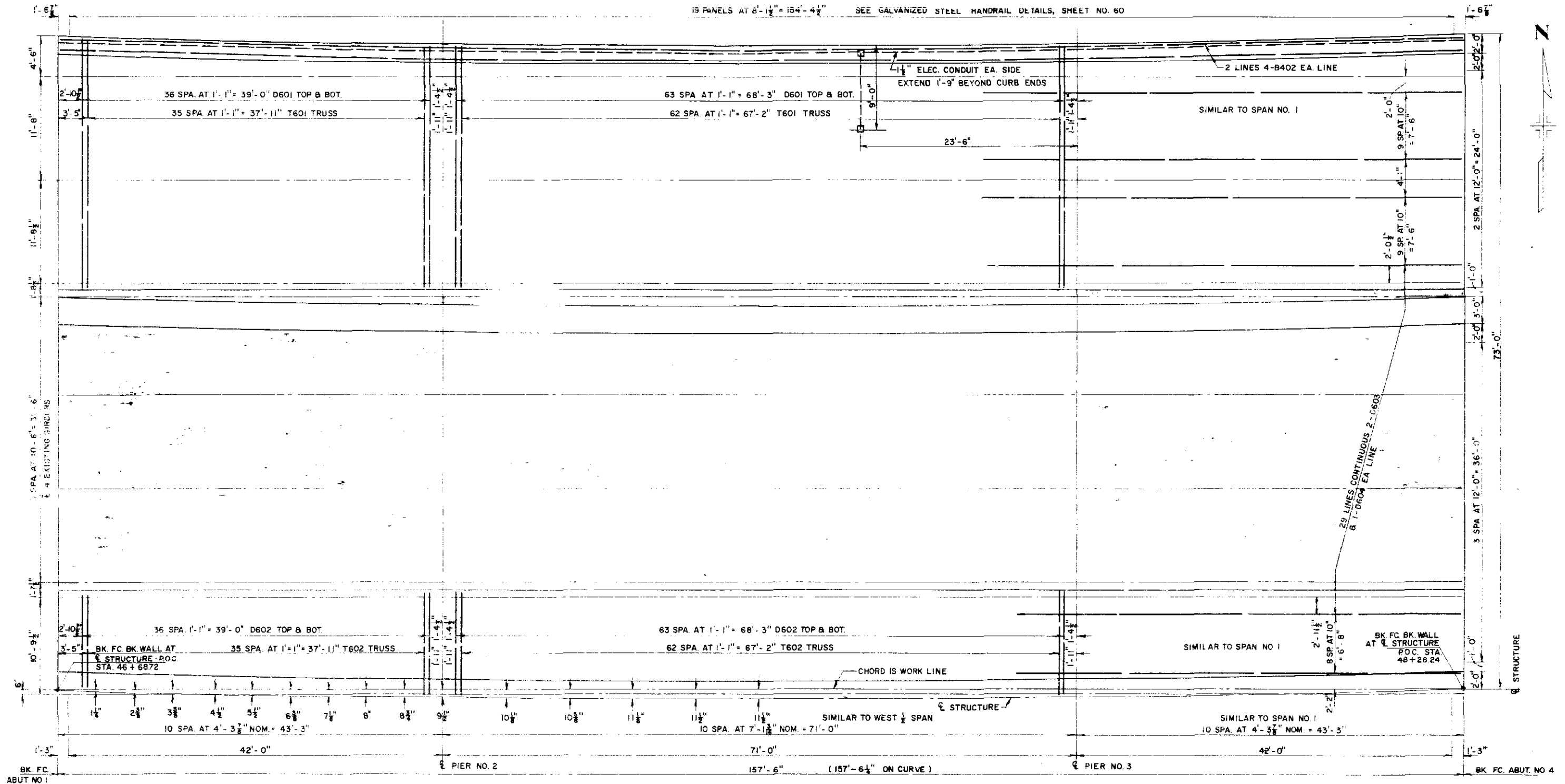
NORTH F-16 - EM
STRUCTURE NO. SOUTH F-16 - EN

REVISIONS

REVISIONS

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 012 2 (13)	23	

15 PANELS AT 8'-1 1/2" = 124'-4 1/2" SEE GALVANIZED STEEL HANDRAIL DETAILS, SHEET NO. 60



**DEPARTMENT OF HIGHWAYS
STATE OF COLORADO**

**DECK PLAN
NORTH BRIDGE**

Across BRYANT ST ON 6th AVE.
Sta 46+68.72 TO 48+26.24
Near DENVER Sec. 8 T. 4S R. 68W

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

JEFFERSON ASSOCIATES
CIVIL ENGINEERS

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

REVISIONS

REVISIONS

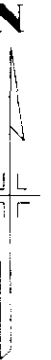
FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 012-2(13)	24	

24 AT 6'-3" = 150'-0" 25 POSTS 6WF20 SEE DETAIL SHEET NO. 60
 CHORD IS WORK LINE

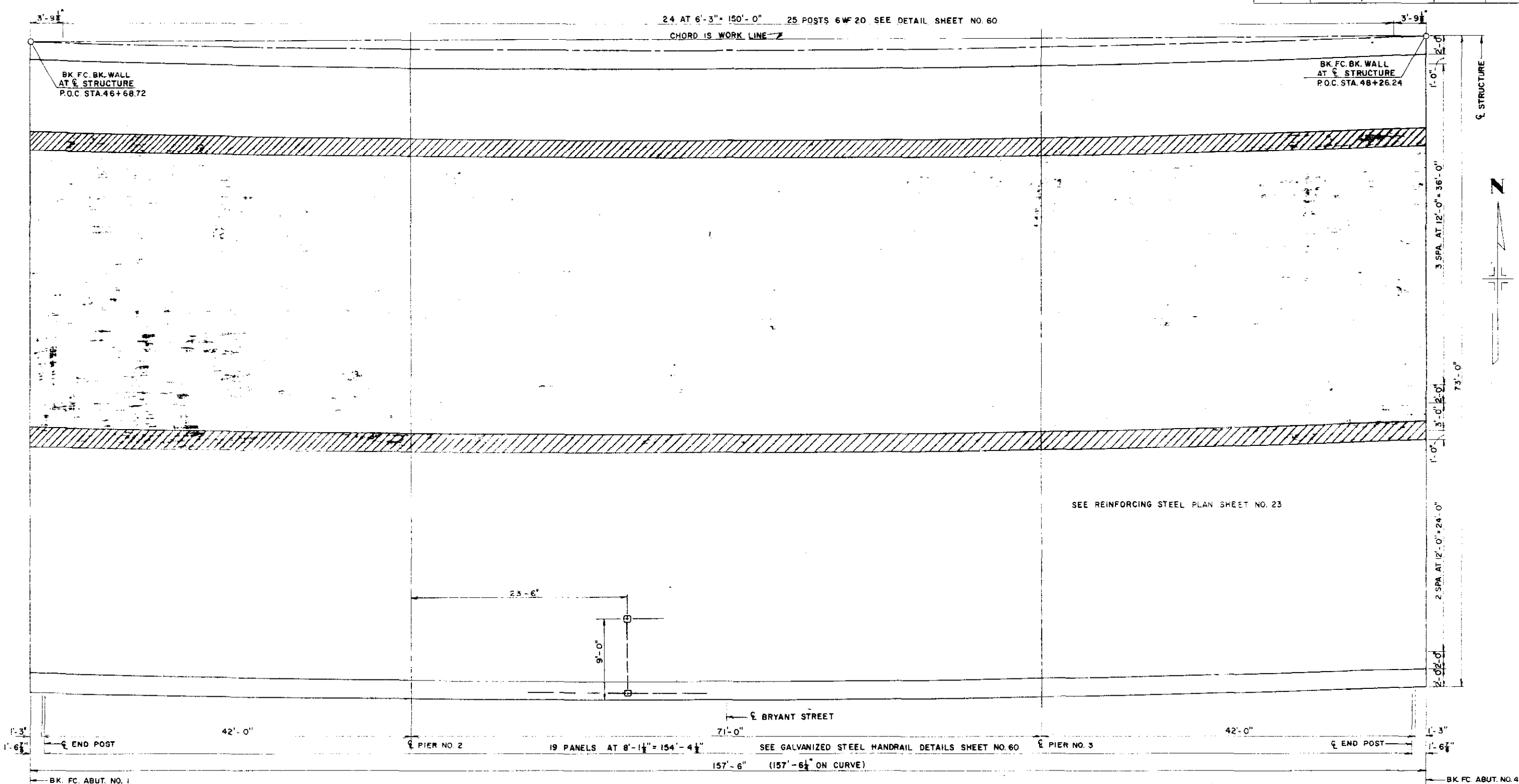
BK. FC. BK. WALL
 AT \bar{C} STRUCTURE
 P.O.C. STA. 46+68.72

BK. FC. BK. WALL
 AT \bar{C} STRUCTURE
 P.O.C. STA. 48+26.24

\bar{C} STRUCTURE



SEE REINFORCING STEEL PLAN SHEET NO. 23



- EXISTING
- REMOVE
- + NEW CONST.

**DEPARTMENT OF HIGHWAYS
STATE OF COLORADO**

**DECK PLAN
SOUTH BRIDGE**

Across BRYANT ST. ON 6th AVE.
 Sta. 46+68.72 TO 48+26.24
 Near DENVER Sec. 8 T. 4S R. 68W

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

JEFFERSON ASSOCIATES
CIVIL ENGINEERS

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

ROADWAY
 DIVISION
 H. 112

Revised	Date