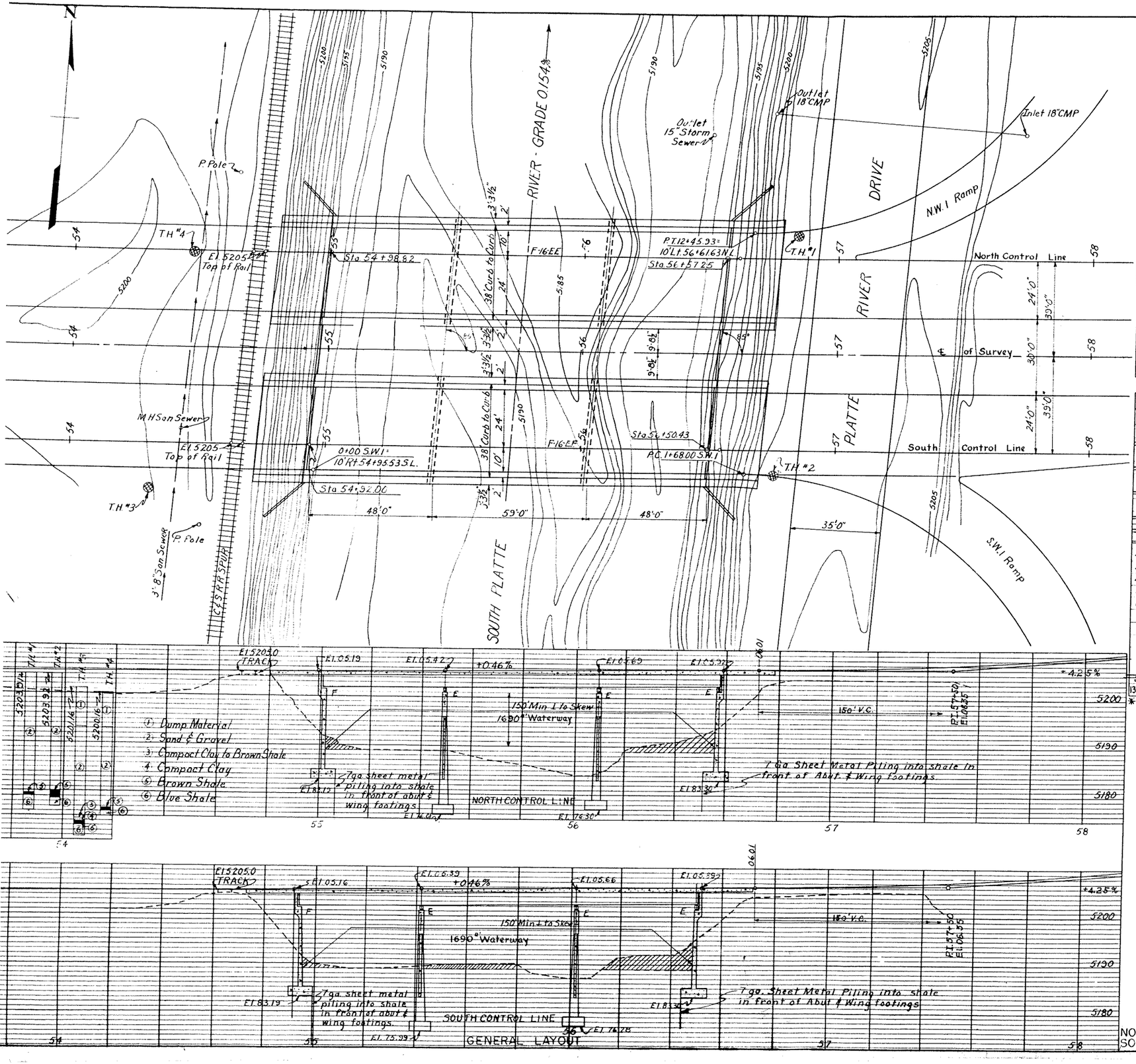
REVISIONS

Rev. 12-28-55, Summary, J.C.R.

FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO	TOTAL SHEETS
9	COLO.	U1002-2 (30) UNIT I First Contract	4	



SUMMARY OF QUANTITIES (NORTH BRIDGE)

ITEM	DESCRIPTION	UNIT	SUPERSTR.	ABUT. № 1	PIER № 2	PIER № 3	ABUT. № 4 & MEDIAN	TOTAL	2 APPROACH ⊕ SLABS
13c	Unclassified Excavation	Cu.Yd.						560	
~~14a~~	~~Dry Rock Excavation (Str.)~~	~~Cu.Yd.~~							
14b	Dry Common Excavation (Str.)	Cu.Yd.		65			85	150	
~~14c~~	~~Wet Rock Excavation (Str.)~~	~~Cu.Yd.~~							
14d	Wet Common Excavation (Str.)	Cu.Yd.		165	110	70	240	585	
~~16a~~	~~Structure Backfill (Class I)~~	~~Cu.Yd.~~		~~200~~	~~90~~	~~50~~	~~312~~	~~652~~	
16c	Mechanical Tamping	Hour		50	23	12	78	163	
~~18a~~	~~Station Yard Overhaul~~	~~Sta.Yd.~~							
~~18b~~	~~Yard Mile Overhaul~~	~~Yd.Mi.~~							
~~32a~~	~~Plant Mixed Asphaltic Surfacing~~	~~Ton~~	62.3					~~62.3~~	~~12.4~~
46a	Class "A" Concrete	Cu.Yd.	184.5	109.3	45.3	45.3	148.6	533	36
47	Reinforcing Steel (1%± Overrun Included)	Lb.	26860	*20240	6760	6760	*23020	83640	4200
48	Structural Steel (½%± added for Paint)	Lb.	153650		450	450		154550	
80c	Sheet Copper 32 oz.	Lb.	3					3	
89a	Drain Pipe 4"+x1'-6" (Conc. floor)	Each	7					7	
91b	Steel Railing	Lin.Ft.	345					345	
159	7 Ga. Metal Sheet Piling	Lin.Ft.		792			850	1642	
*	16 Ga. Galv. Sheet Metal	Sq.Ft.	56					56	
*	¼" Expn. Jt. Mat'l. (Type III AASHO M-153-52)	Sq.Ft.	83					83	
*	½" Expn. Jt. Mat'l. (Type III AASHO M-153-52)	Sq.Ft.	18	52			52	122	
132cxc	24" Reinforced Concrete Pipe Sewer	Lin.Ft.					4	4	

* Reinforcing Steel for entire Abutment.

SUMMARY OF QUANTITIES (SOUTH BRIDGE)

ITEM	DESCRIPTION	UNIT	SUPERSTR.	ABUT. № 1 & MEDIAN	PIER № 2	PIER № 3	ABUT. № 4	TOTAL	2 APPROACH ⊕ SLABS
13c	Unclassified Excavation	Cu.Yd.						560	
~~14a~~	~~Dry Rock Excavation (Str.)~~	~~Cu.Yd.~~							
14b	Dry Common Excavation (Str.)	Cu.Yd.		95			35	130	
~~14c~~	~~Wet Rock Excavation (Str.)~~	~~Cu.Yd.~~							
14d	Wet Common Excavation (Str.)	Cu.Yd.		209	115	95	200	619	
~~16a~~	~~Structure Backfill (Class I)~~	~~Cu.Yd.~~		~~275~~	~~90~~	~~75~~	~~105~~	~~545~~	
16c	Mechanical Tamping	Hour		69	23	14	26	132	
~~18a~~	~~Station Yard Overhaul~~	~~Sta.Yd.~~							
~~18b~~	~~Yard Mile Overhaul~~	~~Yd.Mi.~~							
~~32a~~	~~Plant Mixed Asphaltic Surfacing~~	~~Ton~~	62.3					~~62.3~~	~~12.4~~
46a	Class "A" Concrete	Cu.Yd.	184.4	147.1	45.3	45.7	109.5	532	36
47	Reinforcing Steel (1%±Overrun Included)	Lb.	26860	* *	6760	6760	* *	40380	4200
48	Structural Steel (½%± added for Paint)	Lb.	153650		450	450		154550	
80c	Sheet Copper 32 oz.	Lb.	3					3	
89a	Drain Pipe 4"+x1'-6" (Conc. floor)	Each	7					7	
91b	Steel Railing	Lin.Ft.	345					345	
159	7 Ga. Metal Sheet Piling	Lin.Ft.		1008			670	1678	
*	16 Ga. Galv. Sheet Metal	Sq.Ft.	56					56	
*	¼" Expn. Jt. Mat'l. (Type III AASHO M-153-52)	Sq.Ft.	83					83	
*	½" Expn. Jt. Mat'l. (Type III AASHO M-153-52)	Sq.Ft.	18	52			52	122	
~~53c~~	~~Corrugated Metal Culvert Pipe~~	~~Lin.Ft.~~					~~4~~	~~4~~	
132cxe	36" Reinforced Concrete Pipe Sewer	Lin.Ft.		4				4	

** Reinforcing Steel for entire Abutment is included in North Bridge summary.

REFERENCE DRAWINGS

4 General Layout, Summary of Quantities, General Notes.
5 Superstructure Plan.
6 " Details.
7 Approach Slabs, Exp'n. Device & Bearing Details.
8 Abutment № 1 (South Portion)
9 Abutment № 1 (North Portion)
10 Pier № 2 & № 3
11 Abutment № 4 (North Portion)
12 " № 4 (South Portion)
13 Bar List & Tamping Diagram.

GENERAL NOTES

ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO DEPARTMENT OF HIGHWAYS APPLICABLE TO THE PROJECT.
ALL CONCRETE SHALL BE CLASS "A" AND AIR ENTRAINED AS SPECIFIED.
ALL CONCRETE SURFACES EXPOSED TO VIEW SHALL RECEIVE CLASS "F" SURFACE FINISH, EXCEPT THE UNDERSIDE OF FLOOR SLABS AND ABUTMENT FACES BETWEEN OUTSIDE STRINGERS.

FORMS FOR CONCRETE SURFACES EXPOSED IN THE FINISHED WORK SHALL BE CONSTRUCTED OF SHIPLAP OR TONGUE AND GROOVE LUMBER S 3 S UNLESS FACED WITH PANEL BOARD.
FOOTINGS IN ROCK SHALL BE POURED OUT TO ROCK AND NOT FORMED.
SOUNDINGS AND DEPTH OF FOOTING SHOWN ARE IN ACCORDANCE WITH THE BEST AVAILABLE DATA AND WHEN DIFFERENT CONDITIONS ARE ENCOUNTERED THE BRIDGE ENGINEER WILL INSPECT AND DETERMINE IF REDESIGN IS NECESSARY.
ALL REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A 305-50T OR THE LATEST REVISION THEREOF, AND SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR SHALL BE TAGGED WITH THE NUMBER DESIGNATION AND THE STATION NUMBER OF THE PROJECT. PRIMARY BARS SHALL NOT BE SPLICED AND SECONDARY BARS WHEN SPLICED SHALL LAP 20 DIAMETERS OF THE BAR. DIMENSIONS FOR REINFORCING STEEL NOT SHOWN AS CLEAR SHALL BE TO THE CENTER LINE OF THE BAR.
ALL STRUCTURAL STEEL SHALL BE PAINTED ONE SHOP COAT OF ZINC CHROMATE AND TWO FIELD COATS OF ALUMINUM, UNLESS OTHERWISE NOTED, EXCEPT THE UNEXPOSED PORTION OF STEEL PILING NEED NOT BE PAINTED.

ALL RIVETS, EXCEPT AS NOTED ARE ⅞" DIA. AND SHALL BE POWER DRIVEN
WHEN TREATED TIMBER OR PILING IS SHOWN ON THE DRAWING THE PRESERVATIVE FOR TREATMENT SHALL BE CREOSOTE OIL.
WHEN EXCAVATING FOR FOOTINGS THE FINAL ONE FOOT IN DEPTH SHALL BE DONE BY HAND LABOR METHODS.

HIGH STRENGTH BOLTS MAY BE USED IN PLACE OF FIELD RIVETS BUT AT NO ADDITIONAL EXPENSE TO THE STATE. THE BOLTS TO BE HIGH TENSILE STEEL AND SHALL BE ASSEMBLED IN ACCORDANCE WITH SPECIFICATIONS APPROVED BY THE RESEARCH COUNCIL ON RIVETED AND BOLTED STRUCTURAL JOINTS OF THE ENGINEERING FOUNDATION JAN. 31, 1951.

LOADING DATA

LIVE LOAD A A S H O 'H20-S16-44
DEAD LOAD ASSUMES 25 LBS PER SQ FT FOR 2" ASPHALTIC WEARING SURFACE SHOWN.

DESIGNING DATA

A A S H O 1953 UNIT STRESSES, EXCEPT AS NOTED

Reinforcing Steel	fs	20000 lbs. per sq. in.
Structural Steel	fs	18000 lbs. per sq. in.
	fc	1000 lbs. per sq. in.
	n	10

⊕ Approach Slab Quantities are not included in total of Bridge Quantities.
* To be included in the Bid Price of Class "A" Concrete.

NORTH BRIDGE - STR. NO. F-16-EE STA. 54+98.82 to 56+57.25
SOUTH BRIDGE - STR. NO. F-16-EF STA. 54+92.00 to 56+50.43

COLORADO
DEPARTMENT OF HIGHWAYS
CONTINUOUS WF BEAMS & CONC. SLAB
2 BRIDGES-EACH 3 SPANS 48'-59'-48'
38' RDWY 3'-3½" CURBS 85° SKEW
GENERAL LAYOUT, SUMMARY OF QUANTITIES, GENERAL NOTES
Across South Platte River at W. 6th Ave.
In Denver Sec. 5 T. 4 S R 68 W

Designed by P.C.
Made by P.C.
Checked by

Approved by C. E. Hinkley
Bridge Engineer
Date: Sept 26, 1955

FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	[illegible] Final Contract	5	

AIL OF 32 OZ.
IEET COPPER
STIRRUPS

h Control Line

W Approach Slab

W. Approach Slab

S Bridge

ntrol line

Survey

C & S R R SPUR

N Bridge

E Approach Slab

North control line

North bridge

South bridge

South control line

Ramp control line (N W I)

Ramp control line (S W I)

See detail of expansion device

To ga galv sheet metal under curb

Reinforcing same for both bridges

Copper stirrups See detail at left

Cap floor from 0" at 12" R to 1" at 4" Drain

Sta 54+99.27 Elev = 05.19
Sta 54+98.82 Elev = 05.19
Sta 54+98.21 Elev = 05.19
Sta 54+9 6.55 Elev = 05.19
Sta 54+94.27 Elev = 05.10
Sta 54+92.01 Elev = 05.10
Sta 54+92.00 Elev = 05.10
Sta 54+90.48 (Bk) Elev = 05.10

Sta 55+49.99 Elev = 05.57
Sta 55+47.92 Elev = 05.56
Sta 55+46.20 Elev = 05.54
Sta 55+43.99 Elev = 05.52
Sta 55+42.33 Elev = 05.43
Sta 55+41.71 Elev = 05.39
Sta 55+40.00 Elev = 05.3[illegible]

Sta 50+05.59 Elev = 05.57
Sta 50+07.54 Elev = 05.69
Sta 50+06.93 Elev = 05.70
Sta 50+05.20 Elev = 05.95
Sta 50+02.99 Elev = 05.94
Sta 50+01.33 Elev = 05.74
Sta 50+00.71 Elev = 05.66
Sta 55+99.66 Elev = 05.54

Sta 50+58.30 Elev = 05.75
Sta 50+57.25 Elev = 05.92
Sta 50+50.64 Elev = 06.02[illegible]
Sta 50+54.98 Elev = 06.30
Sta 50+32.70 Elev = 06.29
Sta 50+31.04 Elev = 06.00
Sta 56+50.43 Elev = 05.99
Sta 56+49.38 Elev = 05.71

PT 12+45.93 10' Lt of Sta 50+61.03 N control line
PC 1+68.00 SW1 = 10' Rt of sta 56+65.53 south control line

NORTH BRIDGE F-16-EE

13- Interior panels @ 10'-6" = 136'-6"

SOUTH BRIDGE F-16-EF

14- Handrail panels @ 10'-5" = 145'-10"

188'-5⅛"

PLAN

SECTION A-A (SEC. B-B SIMILAR EXCEPT FOR HANDRAIL)

ABUT. NO. 1 — PIER NO. 2 — PIER NO. 3 — ABUT. NO. 4

48'-0" c to c brgs

59'-0" c to c brgs

Reinforcing bar dimensions are to ℄ of bar unless marked "clear" (cl)

STRUCTURE NO. F-16-EE (No. Bridge) F-16-EF (So. Bridge)

COLORADO
DEPARTMENT OF HIGHWAYS

2 BRIDGES - 3 SPANS (48' - 59' - 48')
CONTINUOUS WF BEAMS & CONC SLAB
38'-0" RDWY - 3'-3½" CURBS - 85° SKEW

SUPERSTRUCTURE

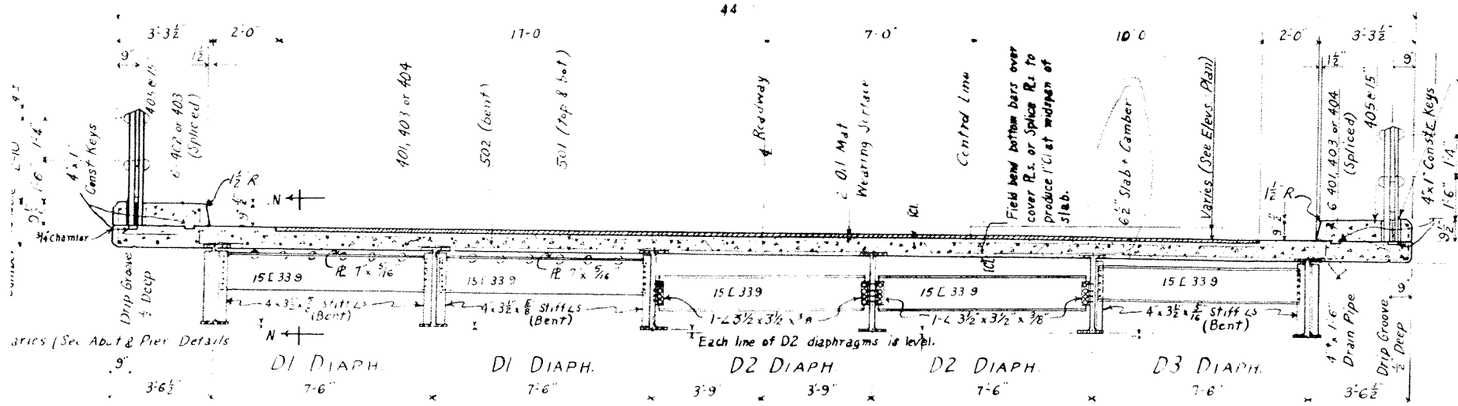
Across S Platte R at W 6th AVE.

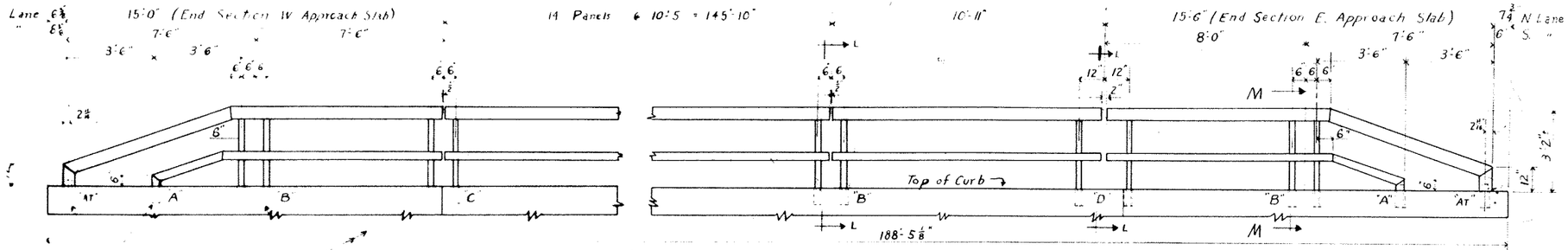
North Bridge Sta 54+98.82 to 56+57.25
South Bridge Sta 54+92.00 to 56+50.43
In Denver Sec. 5 T. 4S R. 68W

Designed by P.C.
Made by L.W.F.
Checked by

Approved by [illegible]
Bridge Engineer
Date: Sept 26, 1955

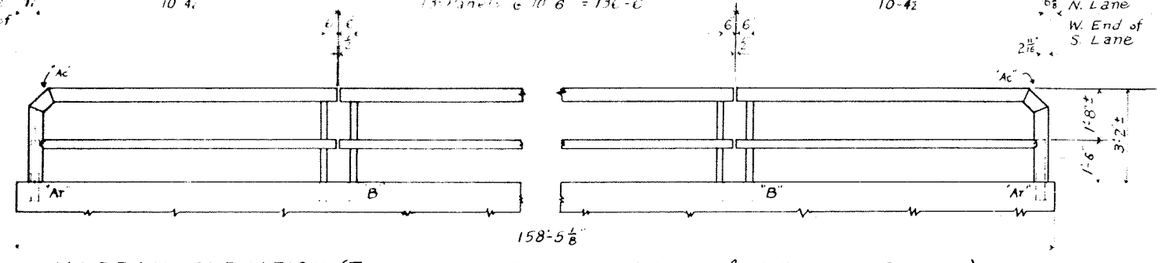
FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	BRIDGE(300) UNIT 1	6	



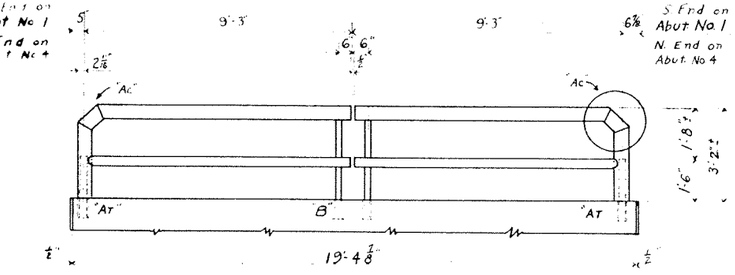


See Socket Anchorage Details shown below

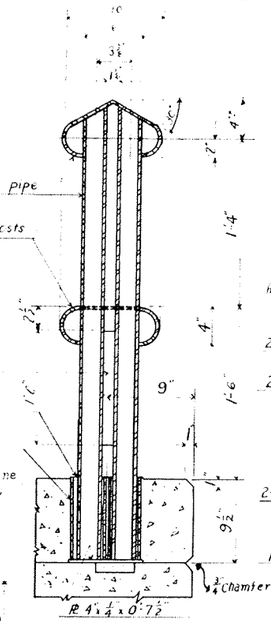
HANDRAIL ELLVATION (TYPICAL FOR N SIDE OF N LANE & S. SIDE OF S LANE)

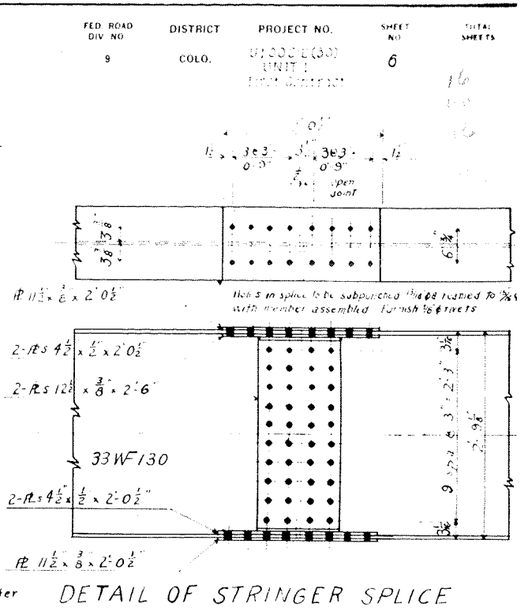


HANDRAIL ELEVATION (TYPICAL FOR S. SIDE OF N. LANE & N SIDE OF S. LANE)

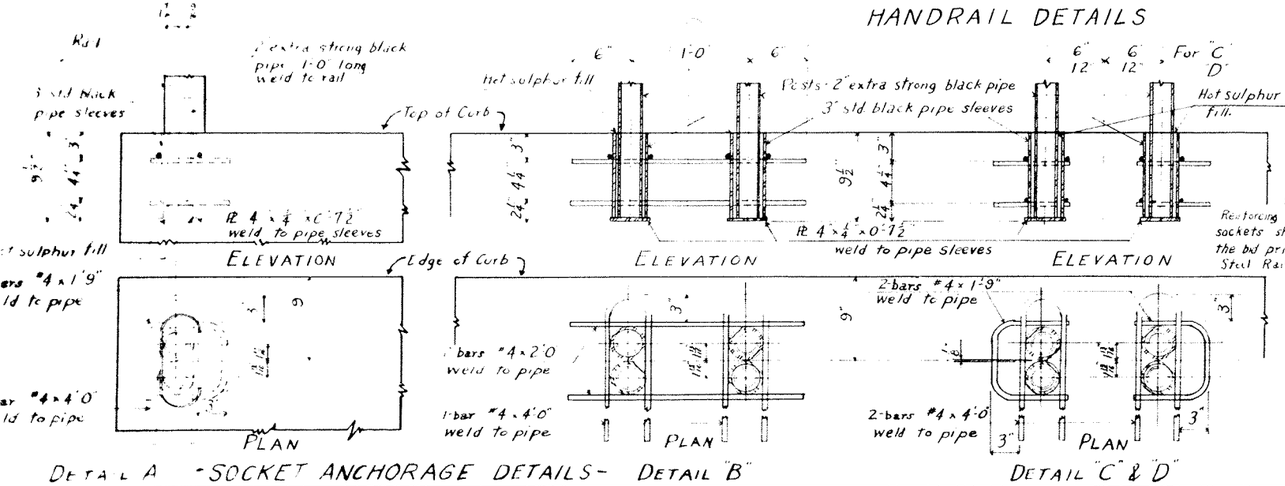


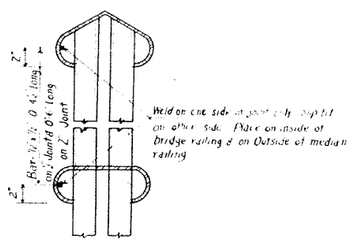
MEDIAN HANDRAIL - ELEVATION - ABUTS. NO.1 & NO.4

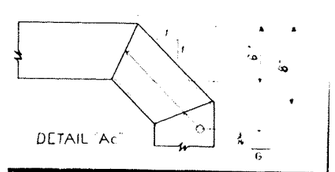




HANDRAIL DETAILS







COLORADO
DEPARTMENT OF HIGHWAYS

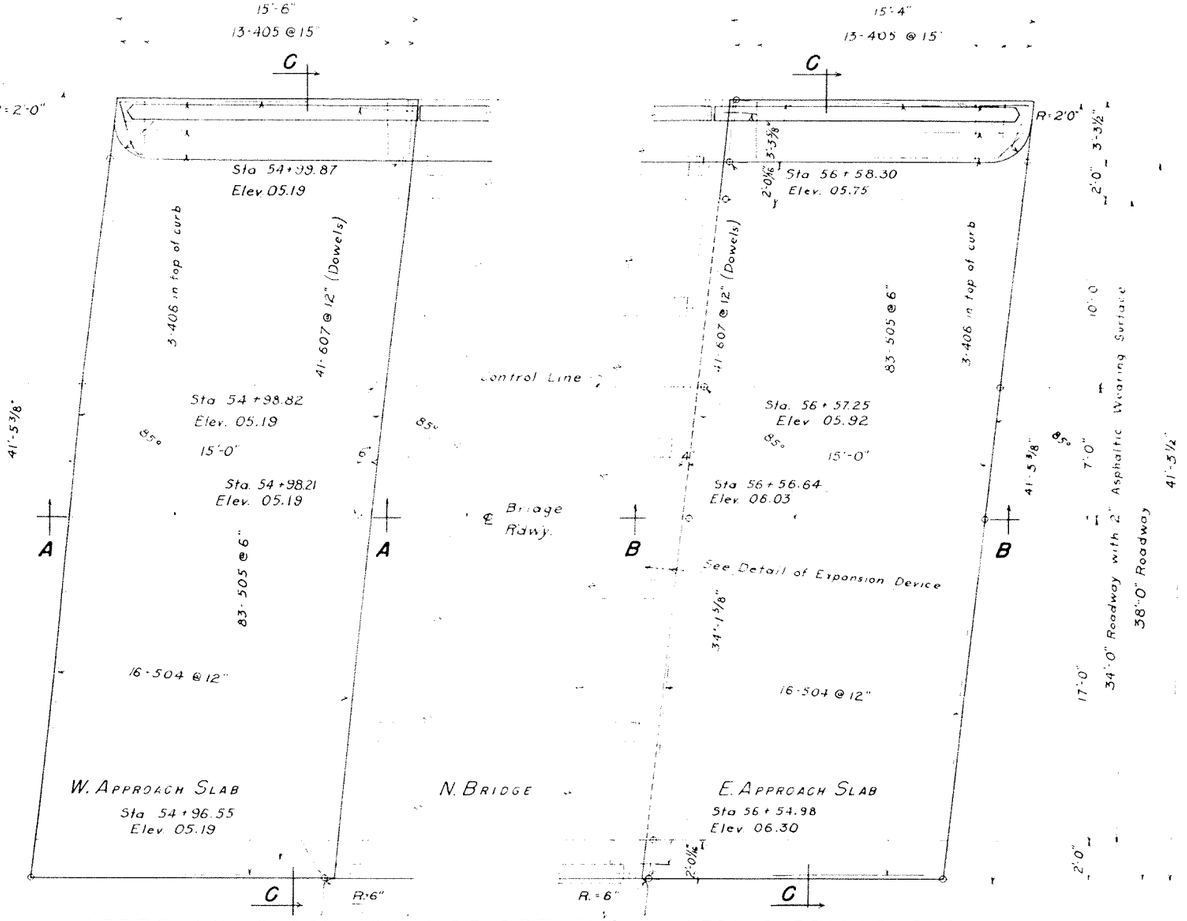
2 BRIDGES - EACH 3 SPANS (48'-59'-48')
CONTINUOUS WF BEAMS & CONC. SLAB
38'-0" ROWY 3'-3⅜" CURBS - 85° SKEW
SUPERSTRUCTURE DETAILS
Sec. 5 T 4S R 68W

Across S. Platte R. at W. 6th in Denver
North Bridge Sta. 54+38.82 to 56+57.25
South " 54+92.00 to 56+30.43

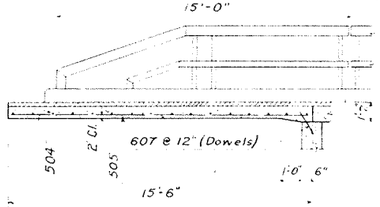
Designed by P.C.
Made by L.W.F.
Checked by

Approved by [illegible]
Bridge Engineer
Date: Sept. 20 1955

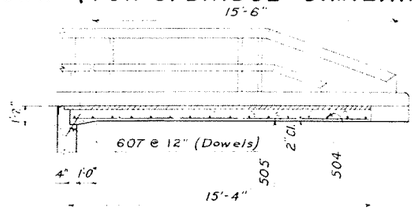
F-16-EE (NORTH BRIDGE)
STRUCTURE NO. F-16-EF (SOUTH BRIDGE)



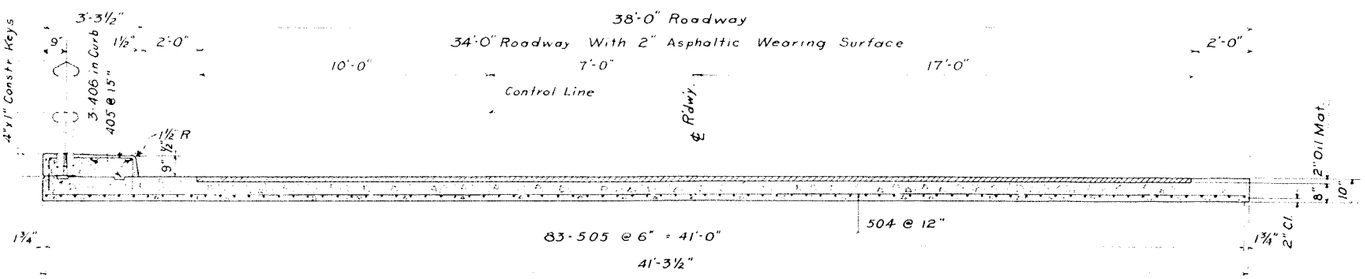
APPROACH SLABS FOR N. BRIDGE SHOWN (FOR S. BRIDGE SIMILAR)



SECTION A-A

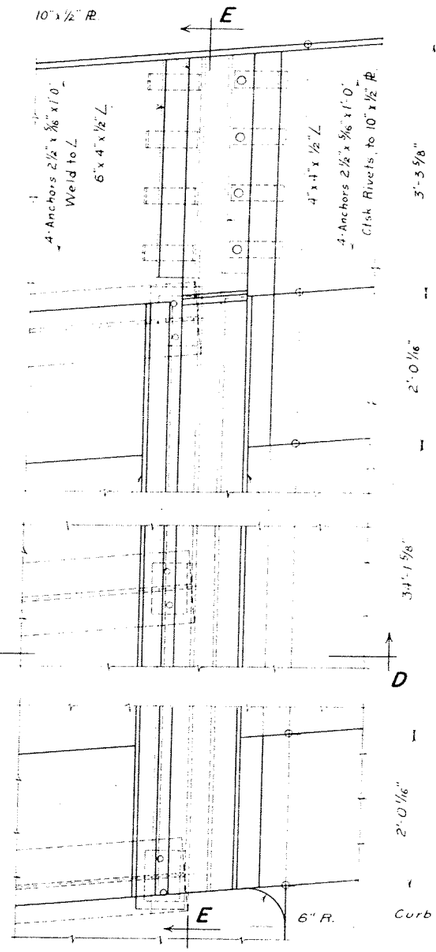


SECTION B-B

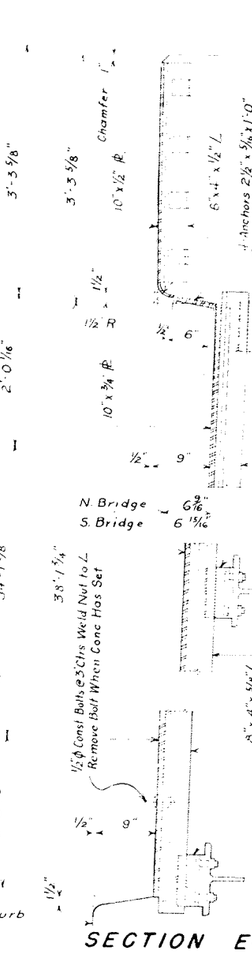


SECTION C-C

DETAILS OF APPROACH SLABS

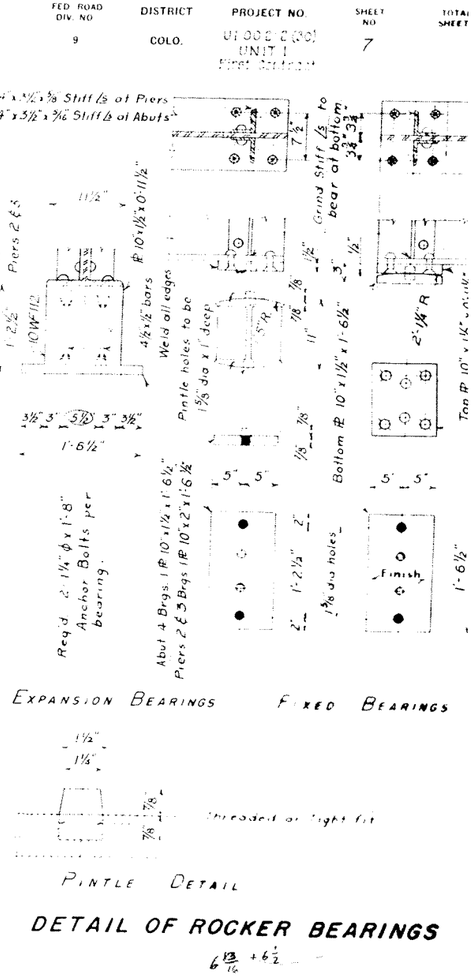


PART PLAN



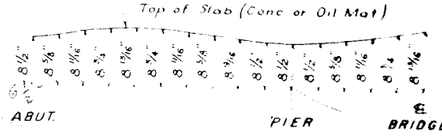
SECTION E-E

(SHOWING STEEL ONLY)

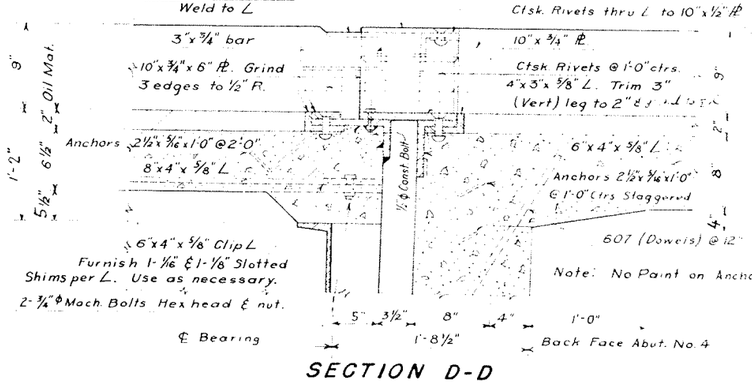


PINTLE DETAIL

DETAIL OF ROCKER BEARINGS



SLAB CAMBER DIAG. ALONG ℄ STRINGER



SECTION D-D

DETAILS OF STEEL EXPANSION DEVICE

Reinforcing bar dimensions are to ℄ of bar unless marked "clear" (Cl.)

STRUCTURE NO. F-16-EE (North Bridge)
STRUCTURE NO. F-16-EF (South Bridge)

FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEET
9	COLO.	UI 000 2 (30) UNIT 1 First Division	7	

COLORADO DEPARTMENT OF HIGHWAYS

2 BRIDGES - 3 SPANS (48'-59'-48')
CONTINUOUS WF BEAMS & CONCRETE SLAB
38'-0" ROADWAY - 3°-33' CURVE - 85° SKEW
APPROACH SLABS - EXP'N. DEVICE
BEARING DETAILS
Across So Platte R at W. 6th Ave.
North Bridge Sta. 54+38.82 to 56+57.25
South Bridge Sta. 54+92.00 to 56+50.43
In Denver Sec. 5 T. 4 S R. 68 W

Designed by P. C.	Approved by J. B. Macfarlane
Made by L. W. F.	Bridge Engineer
Checked by	Date Oct. 23, 1953

FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U1002-2(30) UNIT 1 First Contract	8	

DETAIL SOUTH END ABUTMENT Nº 1

PLAN SOUTH PORTION ABUTMENT Nº 1

SECTION "A-A"

SECTION "B-B"

TRUE ELEVATION SOUTH WING ABUTMENT Nº 1

ELEVATION SOUTH PORTION ABUTMENT Nº 1

MAXIMUM TOE PRESSURE = 3900 #/SQ.FT.

SECTION "C-C"

Item no. 159

TYPICAL SECTION OF METAL SHEET PILING (Interlocking Type)

DETAIL AT BEARING

Note: All Expansion Joint Material Used In Abutment To Be Type III
Dimensions For Reinforcing Steel Not Shown As Clear Shall Be To The Center Line Of The Bar

COLORADO
DEPARTMENT OF HIGHWAYS

TWO BRIDGES-EACH 3 SPANS (48'-59'-48') CONTINUOUS W^e BEAMS & CONCRETE SLAB 38'-0" ROADWAY 3-3½" CURB 85°00' SKEW

ABUTMENT Nº 1 AND DETAILS

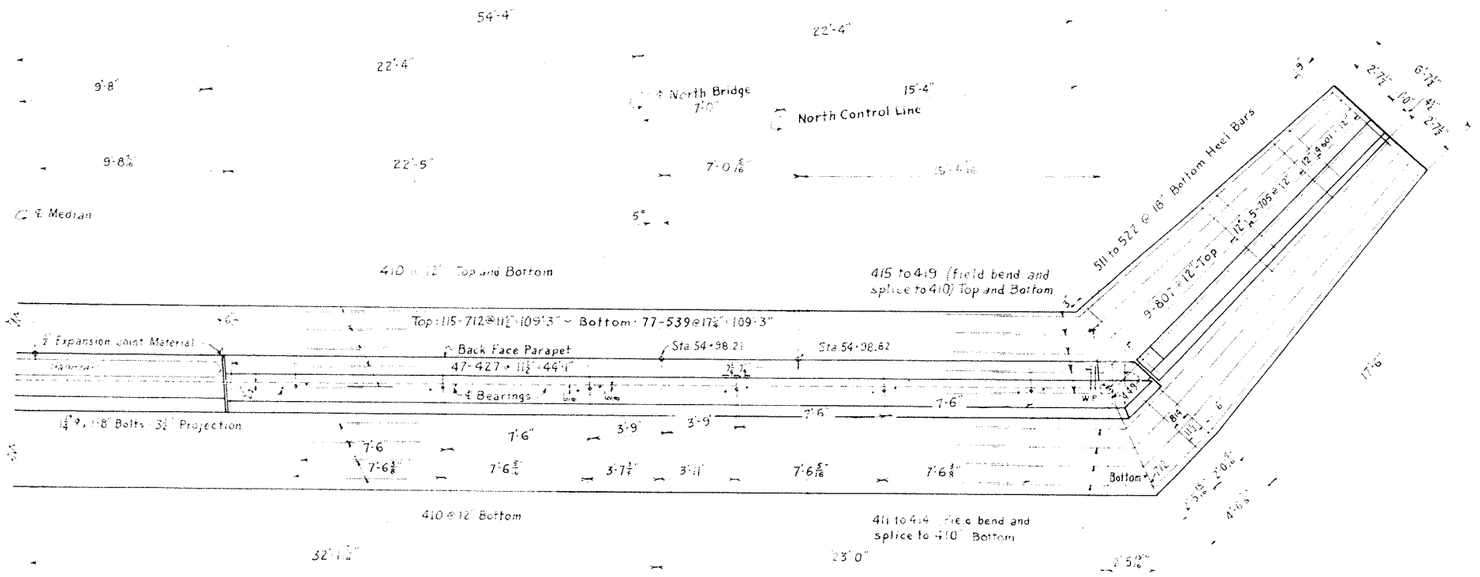
Across SOUTH PLATTE RIVER AT WEST 6TH AVE.
Sta. SEE NOTE AT LEFT
IN DENVER Sec. 5 T. 4S R. 68W

NORTH BRIDGE
STRUCTURE Nº F-16-EE
STATION 54+98.82 to 56+57.25
SOUTH BRIDGE
STRUCTURE Nº F-16-EF
STATION 54+92.00 to 56+50.43

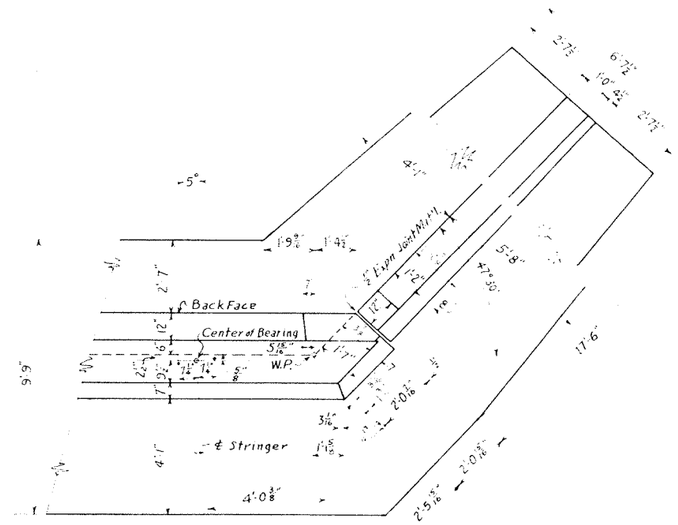
Designed by P.C.
Made by T.J.M.
Checked by

Approved by L.D. Vanderhoof
Bridge Engineer
Date: Sept. 20, 1955

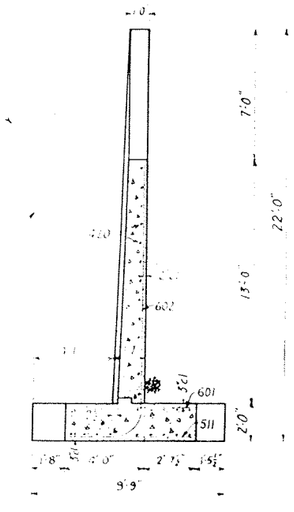
FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	C 1000 C (3C) UNIT 1 First Contract	9	



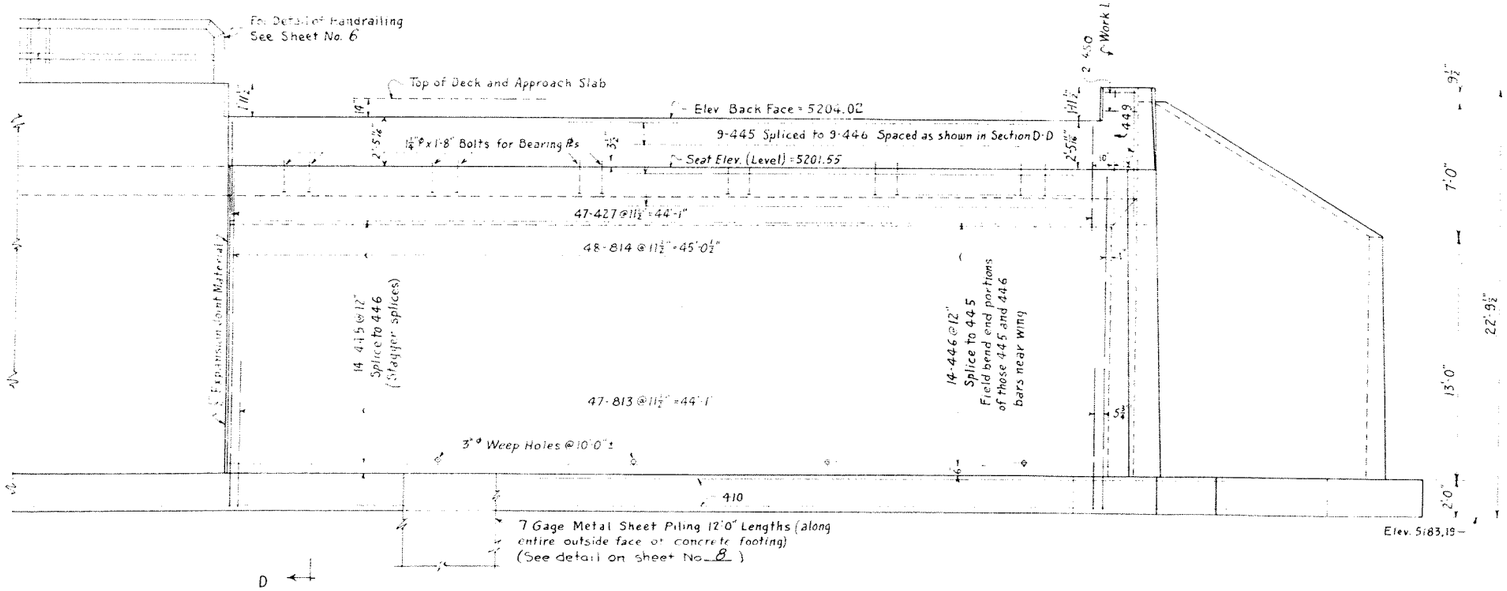
PLAN NORTH PORTION ABUTMENT No.1



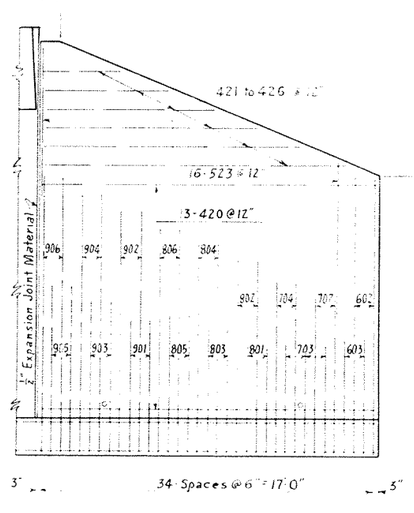
DETAIL NORTH END ABUTMENT No.1



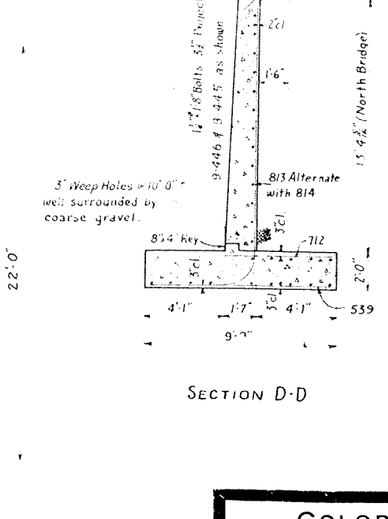
SECTION E-E



ELEVATION NORTH PORTION ABUTMENT No.1
(Max toe pressure = 3,900 #/sq ft)



TRUE ELEVATION NORTH WING ABUTMENT No.1



SECTION D-D

Note: All expansion joint material used in abutment to be type III. Dimensions for reinforcing steel not shown as clear shall be to the centerline of the bar.

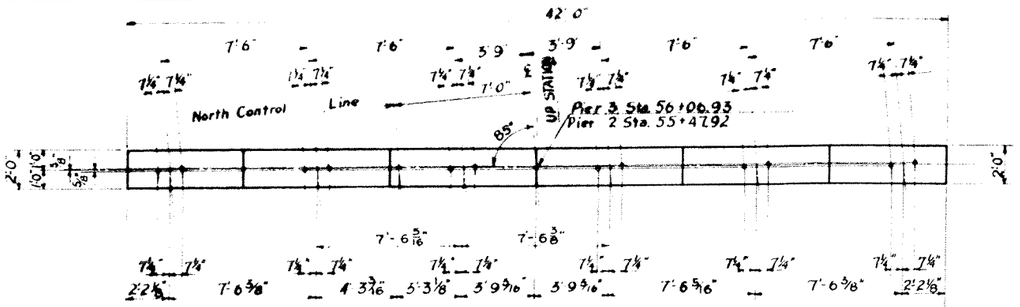
F-16-EE - North Bridge
STRUCTURE NO. F-16-EF - South Bridge

COLORADO
DEPARTMENT OF HIGHWAYS

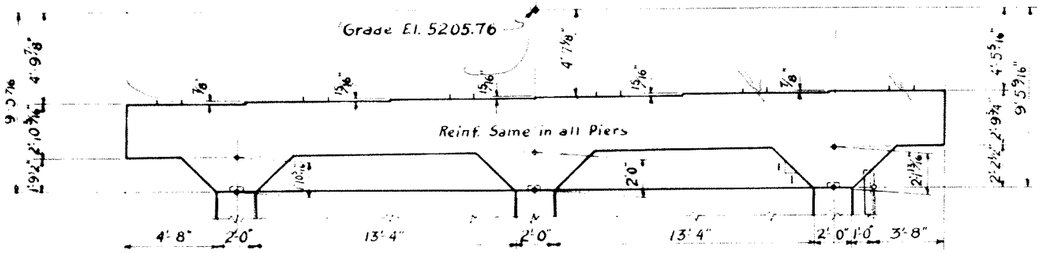
TWO BRIDGES - EACH 3 SPANS (48'-59'-48')
CONTINUOUS WF BEAMS AND CONCRETE SLAB
38'-0" ROADWAY - 3'-3½" CURBS - 85°00' SKEW
ABUTMENT No.1 AND DETAILS
Across South Platte River at West 6TH Ave.
N. Br. Sta 54+98.81 to 56+57.25; So. Br. Sta 54+92.80 to 56+50.43
IN DENVER Sec. 5 T. 4 S. R. 68 W.

Designed by P.C.	Approved by L.K. Hamilton
Made by T.J.M.	Bridge Engineer
Checked by	Date: Sept 14, 1955

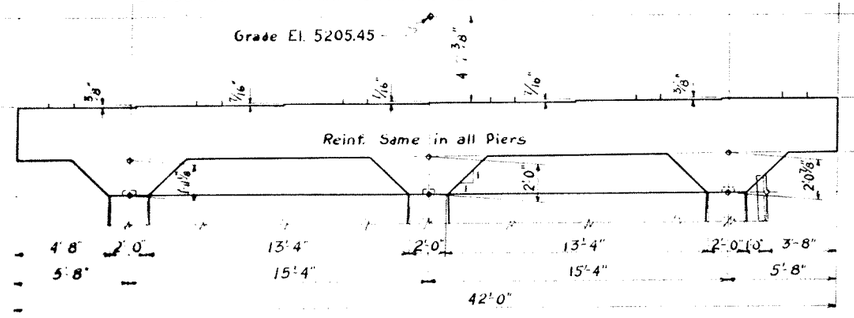
FED. ROAD DIV. NO	DISTRICT	PROJECT NO	SHEET NO	TOTAL SHEETS
9	COLO.	U 002-2(30) UNIT 1 Final Contract	10	



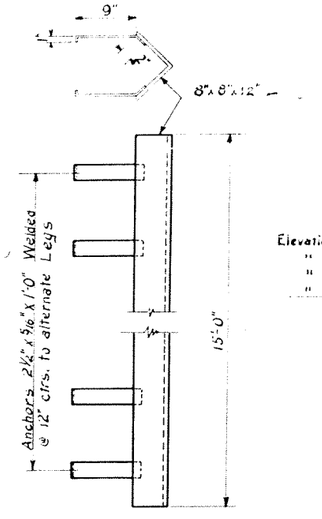
NORTH BRIDGE - PIERS Nº 2 & 3 PLAN OF CAP



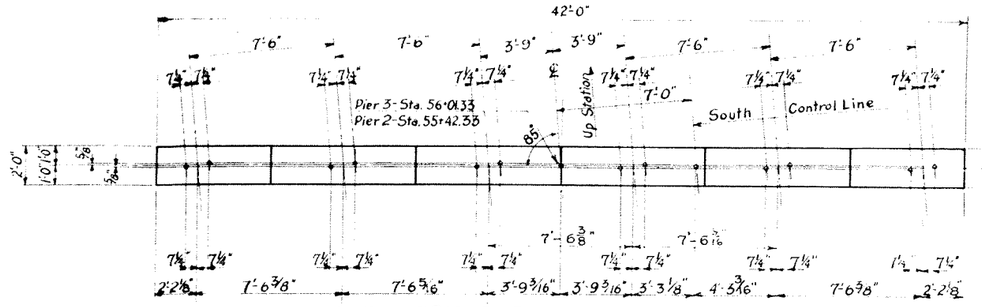
NORTH BRIDGE - PIER Nº 3 - ELEVATION OF CAP
STRUCTURE BELOW CAP SAME ON ALL PIERS (EXCEPT HAUNCHES)



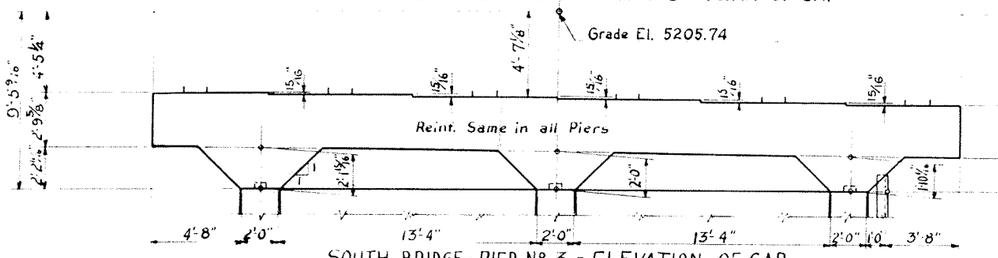
NORTH BRIDGE - PIER Nº 2 - ELEVATIONS OF CAP
STRUCTURE BELOW CAP SAME ON ALL PIERS
EXCEPT HAUNCHES AS NOTED



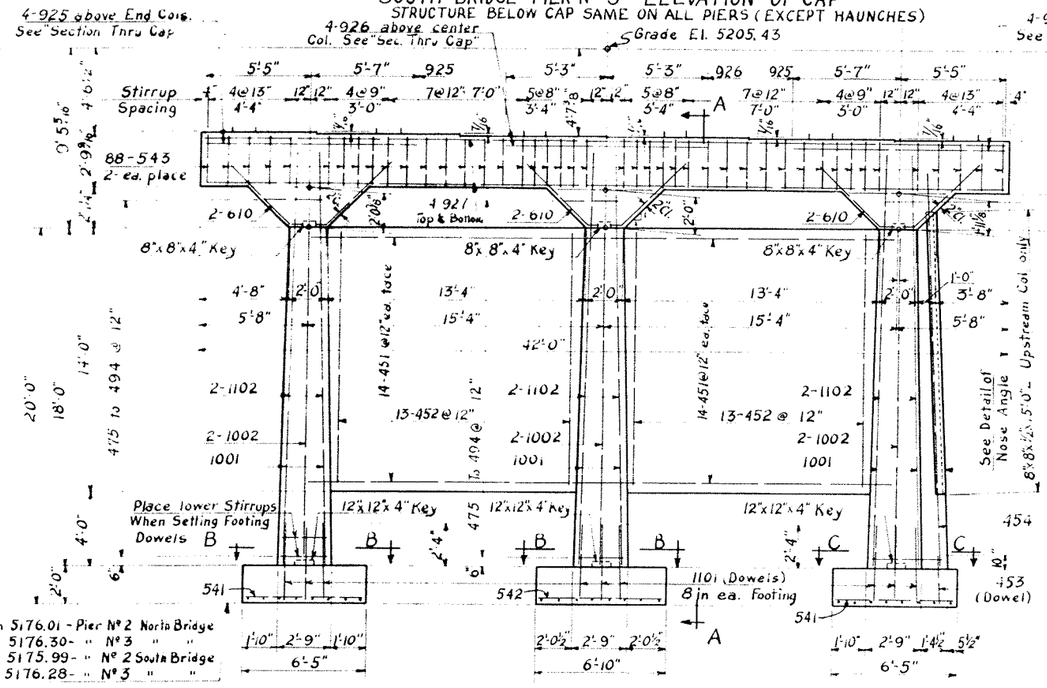
DETAIL OF NOSE ANGLE



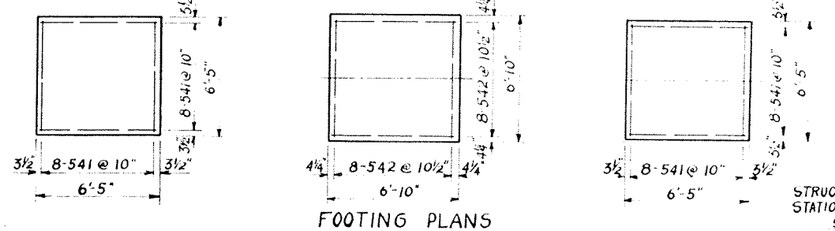
SOUTH BRIDGE PIERS Nº 2 & 3 - PLAN OF CAP



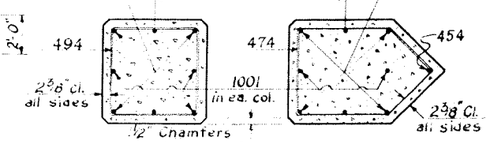
SOUTH BRIDGE - PIER Nº 3 - ELEVATION OF CAP
STRUCTURE BELOW CAP SAME ON ALL PIERS (EXCEPT HAUNCHES)



SOUTH BRIDGE - PIER Nº 2 ELEVATION

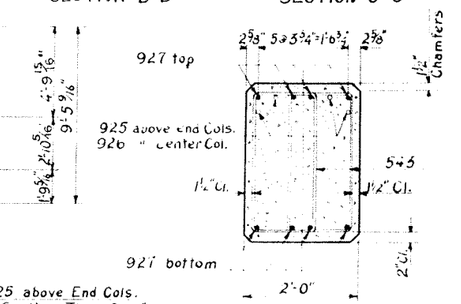


FOOTING PLANS
MAX. FTG. PRESSURE = 6200 PSF.

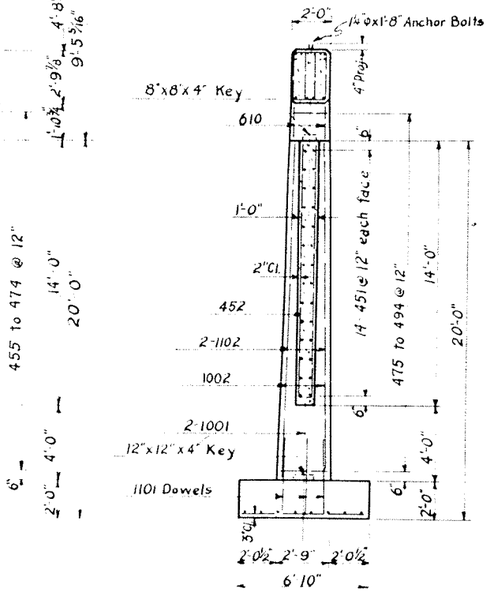


All COLUMN BARS SPLICED TO FOOTING DOWELS

SECTION "B-B" SECTION "C-C"



SECTION THRU CAP



SECTION "A - A"

Reinforcing bar dimensions are to the ℄ of the bar unless marked clear "Cl."

COLORADO
DEPARTMENT OF HIGHWAYS

2 BRIDGES - 3 SPANS (48'-59'-48')
38'-0" ROADWAY 3'-3½" CURBS 85° SKEW
CONTINUOUS W^ BEAMS & CONC. SLAB

PIER DETAILS

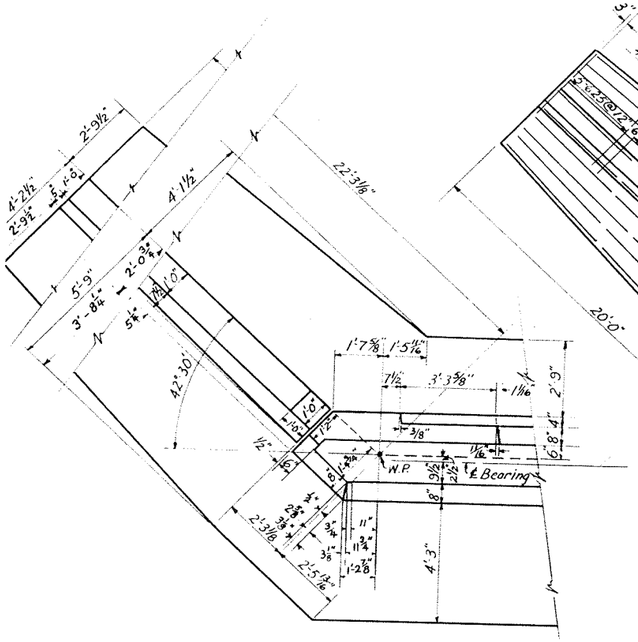
Across SOUTH PLATTE RIVER AT WEST 6TH — SEE DESCRIPTION AT LEFT
IN DENVER — Sec. 5 T 4S R 68W

NORTH BRIDGE
STRUCTURE Nº F-16-EE
STATION 54+98.82 to 56+57.25
SOUTH BRIDGE
STRUCTURE Nº F-16-EF
STATION 54+92.00 to 56+50.45

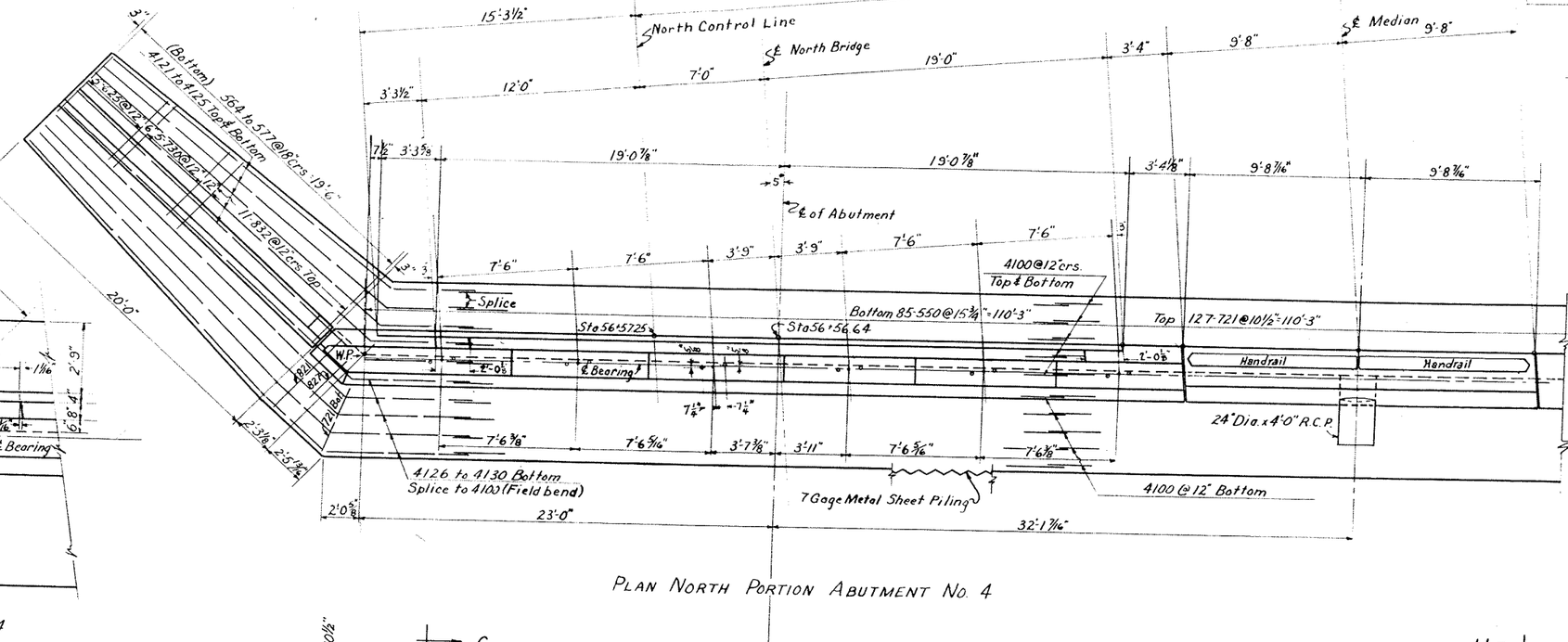
Designed by P.C.	Approved by: J. Stanley
Made by L.W.F.	Bridge Engineer
Checked by	Date: Dec 26, 1955

FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U1002-2(30) UNIT 1	11	

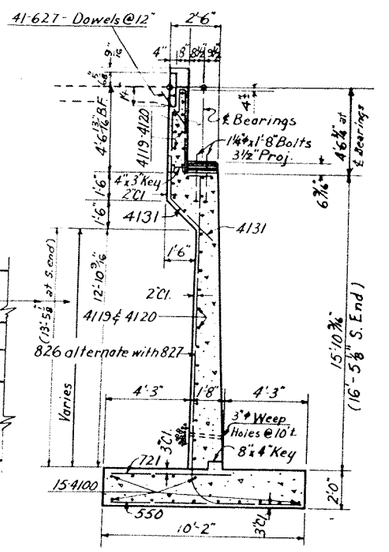
First Contract



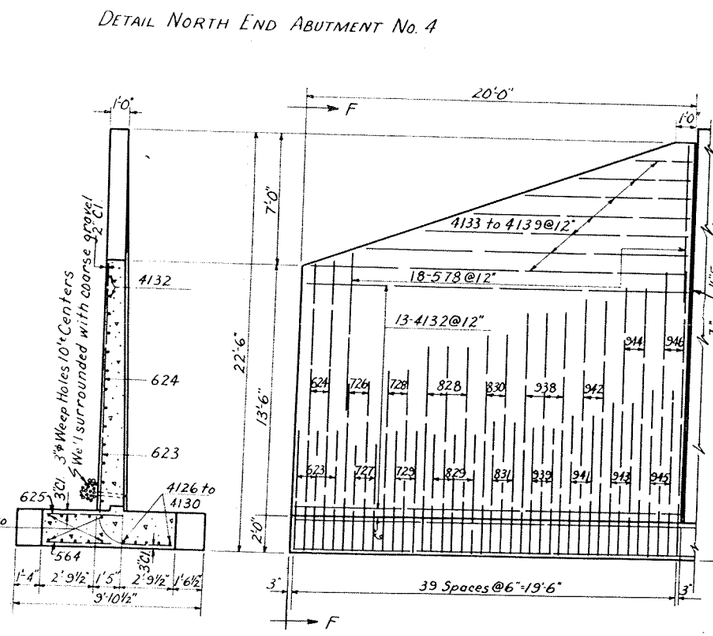
Detail North End Abutment No. 4



Plan North Portion Abutment No. 4



Section G-G

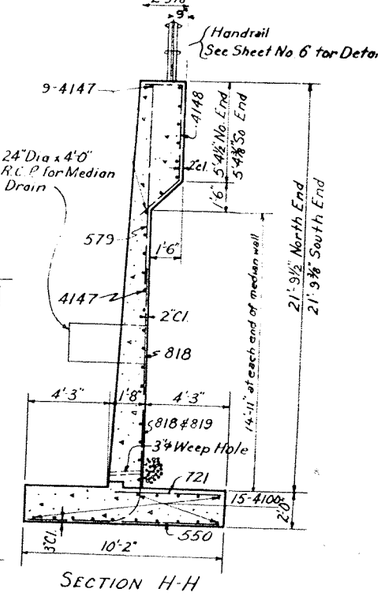


True Elevation North Wing Abutment No. 4

Elevation North Portion Abutment No. 4

Max. toe pressure = 3.860 #/Sq ft.

Note: All expansion joint material used in abutment shall be type III. Dimensions for reinforcing steel not shown as "clear" shall be to the center line of bar.



Section H-H

Section F-F

North Bridge Sta. 54+98.82 to Sta. 56+57.25
South Bridge Sta. 54+92.00 to Sta. 56+50.43

STRUCTURE NO. F-16-EE (North Bridge) F-16-EF (South Bridge)

COLORADO DEPARTMENT OF HIGHWAYS

Two Bridges - Each 3 Spans (48'-59'-48') Continuous WF Beams & Concrete Slab 38'-0" Rdwy. - 3'-3½" Curbs - 85°00' Skew

Abutment No. 4 and Details

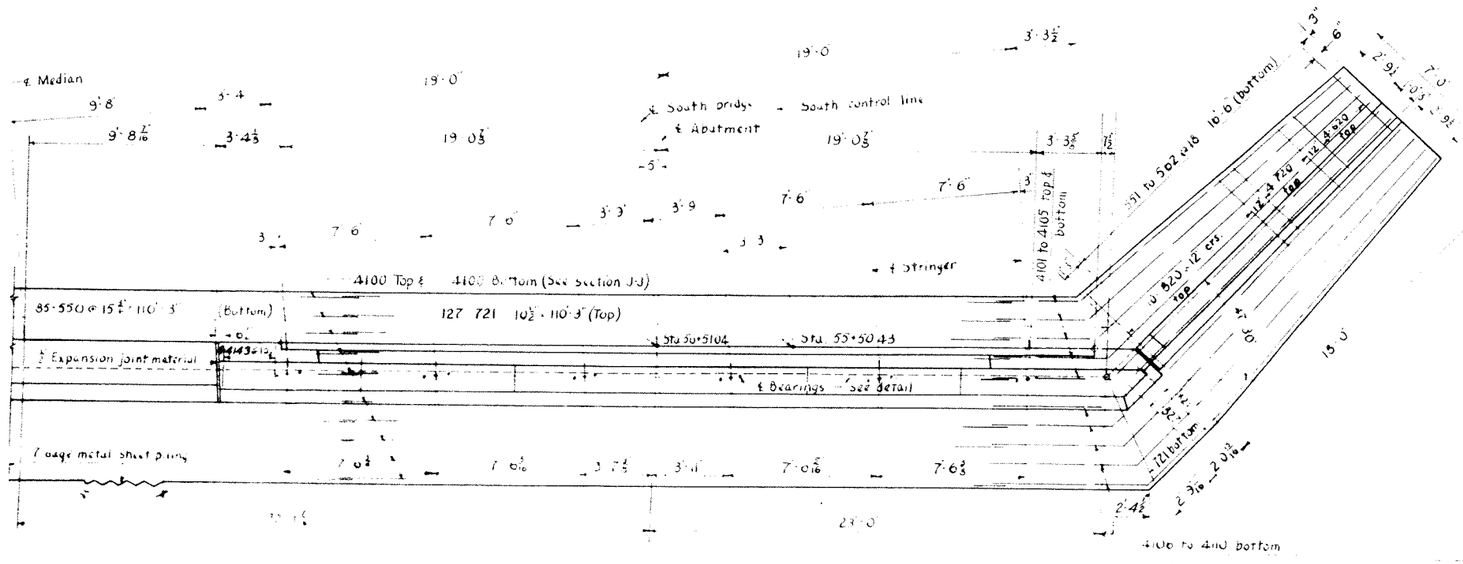
Across So. Platte River at W. 6th Ave.

In Denver Sec. 5 T. 4 S. R. 68 W.

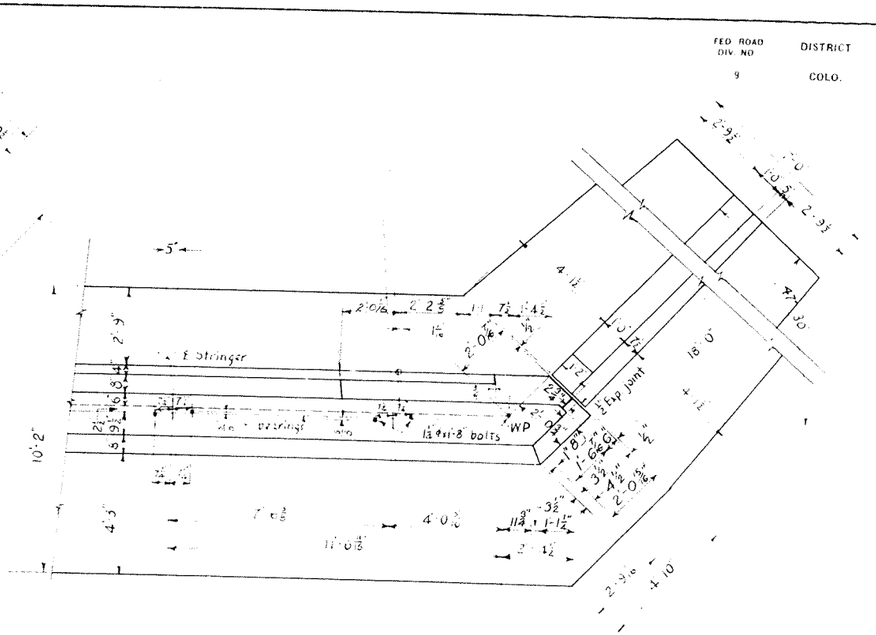
Designed by P.C.
Made by T.J.M.
Checked by

Approved by [signature]
Bridge Engineer
Date: Sept. 26, 1955

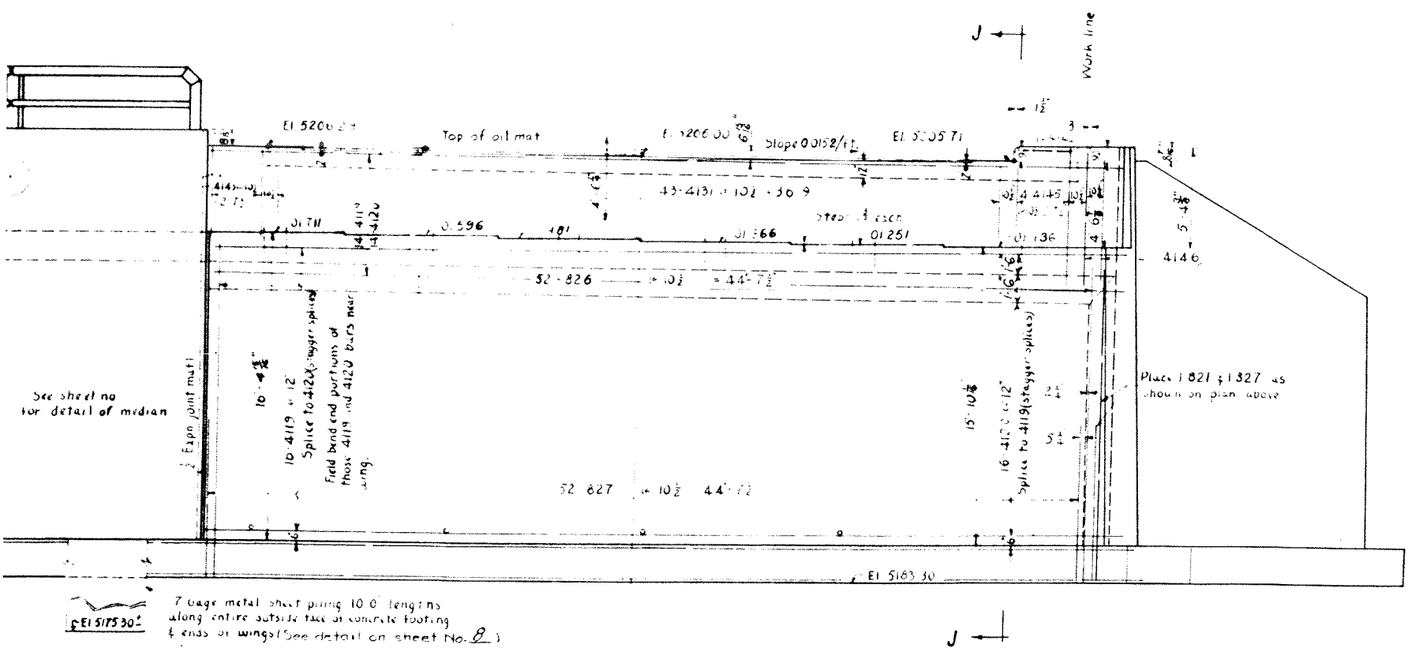
FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	[illegible]	12	



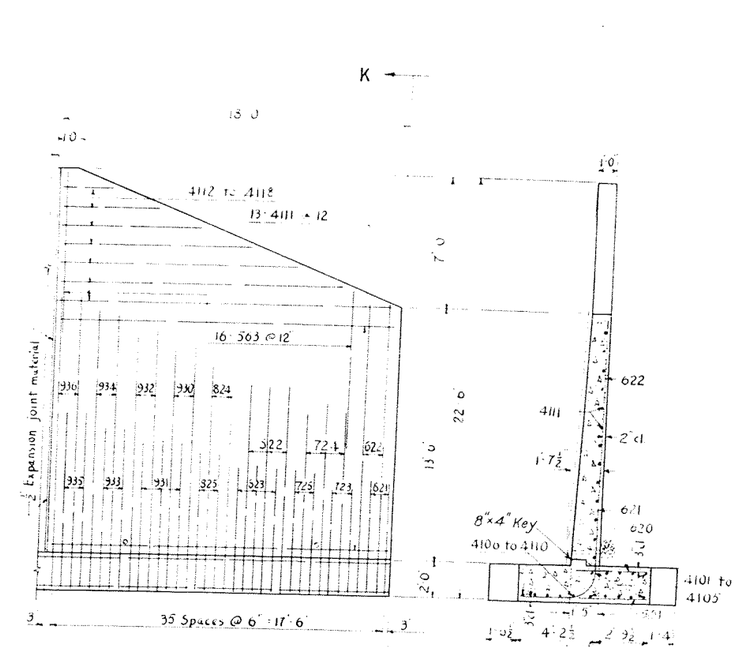
PLAN
SOUTH PORTION ABUTMENT NO. 4



DETAIL SOUTH END ABUTMENT NO. 4

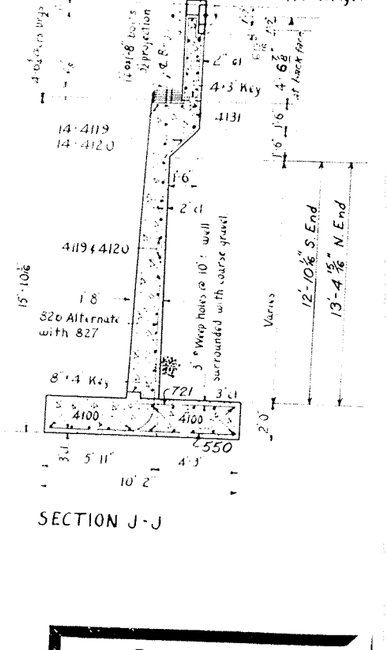


ELEVATION
SOUTH PORTION ABUTMENT NO. 4



TRUE ELEVATION SOUTH WING

SECTION K-K



SECTION J-J

Note: All expansion joint material used in abutment shall be type III. Dimensions for reinforcing steel not shown as "clear" shall be to the center line of bar.

COLORADO
DEPARTMENT OF HIGHWAYS

TWO BRIDGES EACH 3 SPANS (48'-59'-48') CONTINUOUS W. BEAMS & CONCRETE SLAB, 38' ROADWAY - 3'-3½" CURBS - 85° SKEW ABUTMENT NO. 4 AND DETAILS
Across South Platte river at W. 6th Ave
North bridge sta 54+98.82 to sta 56+57.25
South bridge sta 54+92.00 to sta 56+50.43
In Denver Sec. 5 T. 4S R. 68W

Designed by P. C.	Approved by: [illegible]
Made by T. J. M.	Bridge Engineer
Checked by	Date: Sept. [illegible] 1955

F-16-EE (North Bridge)
STRUCTURE NOS. F-16-EF (South Bridge)

LWF JVG & MGD

BAR LIST FOR SUPERSTRUCTURE
FOR F-16-EE (SAME FOR F-16-EF)

MARK	SIZE	No. REQ'D	LENGTH	TYPE	DIMENSIONS			
					l	m	n	t
401	1½"ϕ	142	25'-0"	Str.	Spliced			
402	1½"ϕ	24	25'-3"	Str.	Spliced			
403	1½"ϕ	154	30'-0"	Str.	Spliced			
404	1½"ϕ	142	24'-6"	Str.	Spliced			
405	1½"ϕ	253	5'-1"	I	1'-2	2'-10"		
501	⅝"ϕ	250	44'-6"	Str.				
502	⅝"ϕ	124	45'-11½"	II				

BAR SUMMARY FOR SUPERSTRUCTURE

13,541 Lin ft 1½"ϕ @ 0.668 #/ft = 9045#
16,824 " " ⅝"ϕ @ 1.043 #/ft = 17,547
1% Overrun = 268
TOTAL = 26,860#

LWF JVG & MGD

BAR LIST FOR ONE PIER
SAME FOR EACH OF (4) PIERS

MARK	SIZE	No. REQ'D	LENGTH	TYPE	DIMENSIONS			
					l	m	n	t
451	1½"ϕ	56	15'-3"	Str.				
452	1½"ϕ	26	27'-2"	I	13'-3"	0'-8"		
453	1½"ϕ	1	2'-6"	Str.	Ftg. Dowel			
454	1½"ϕ	1	21'-0"	Str.				
455			7'-8"		1'-6½"	1'-7¾"		
to	1½"ϕ	1 ea.	by 2¼" to	VIII	by ½"	by ½"		
474			11'-2¾"		to 2'4"	to 2'5¾"		
475			6'-10"		1'-6½"	1'-6½"		
to	1½"ϕ	2 ea.	by 2" to	VII	by ½"	by ½"		
494			10'-0"		to 2'4"	to 2'4"		
541	⅝"ϕ	32	6'-0"	Str.				
542	⅝"ϕ	16	6'-5"	Str.				
543	⅝"ϕ	88	7'-10¼"	VII	2'-5½"	1'-1⅝"		
610	¾"ϕ	6	10'-10¼"	VI				
925	1⅛"ϕ	8	11'-0"	Str.				
926	1⅛"ϕ	4	10'-6"	Str.				
927	1⅛"ϕ	8	41'-6"	Str.				
1001	1¼"ϕ	6	8'-6"	Str.				
1002	1¼"ϕ	6	17'-6"	Str.				
1101	1⅜"ϕ	24	4'-0"	Str.				
1102	1⅜"ϕ	12	22'-0"	Str.				

BAR SUMMARY FOR ONE PIER

2110 Lin Ft 1½"ϕ @ 0.668 #/ft = 1410#
986 " " ⅝"ϕ @ 1.043 #/ft = 1028
65 " " ¾"ϕ @ 1.502 #/ft = 98
462 " " 1⅛"ϕ @ 3.400 #/ft = 1571
156 " " 1¼"ϕ @ 4.303 #/ft = 671
360 " " 1⅜"ϕ @ 5.313 #/ft = 1913
1% Overrun = 69
Totals = 6760#

LWF JVG & MGD

BAR LIST FOR ONE APPROACH SLAB
SAME FOR EACH OF (4) SLABS

MARK	SIZE	No. REQ'D	LENGTH	TYPE	DIMENSIONS			
					l	m	n	t
405	1½"ϕ	13	5'-1"	I	1'-2"	2'-10"		
406	1½"ϕ	3	15'-2"	Str.				
504	⅝"ϕ	16	41'-3"	Str.				
505	⅝"ϕ	83	15'-2"	Str.				

SUMMARY FOR ONE APPROACH SLAB

112 Lin Ft 1½"ϕ @ 0.668 #/ft = 75#
1919 " " ⅝"ϕ @ 1.043 #/ft = 2002#
1% Overrun = 23#
One Slab Total = 2100#

T.J.M. JVG

BAR LIST FOR ABUTMENT No. 1

MARK	SIZE	No. REQ'D	LENGTH	TYPE	DIMENSIONS			
					l	m	n	t
410	1½"ϕ	42	34'-0"	Str.				
411			27'-6"					
to	1½"ϕ	1 ea.	by 10" to	Str.				
414			30'-0"					
415			22'-7"					
to	1½"ϕ	2 ea.	by 10½" to					
419			26'-0"					
420	1½"ϕ	13	17'-2"	Str.				
421			3'-6¼"					
to	1½"ϕ	1 ea.	by 2'-4¾"	Str.				
426			to 15'-6"					
427	1½"ϕ	94	11'-1½"	IX	2'-6"	3'-8"		
428			29'-4"					
to	1½"ϕ	1 ea.	by 8" to	Str.	(Field Bend)			
431			31'-4"					
432			24'-8"					
to	1½"ϕ	2 ea.	by 10" to	Str.	(Field Bend)			
436			28'-0"					
437	1½"ϕ	13	19'-2"					
438			4'-2"					
to	1½"ϕ	1 ea.	2'-8"	Str.				
443			17'-6"					
445	1½"ϕ	46	20'-0"	Str.				
446	1½"ϕ	46	27'-6"	Str.				
447	1½"ϕ	22	19'-0"	Str.				
448	1½"ϕ	14	8'-11"	IV	2'-0"	4'-2"		
449	1½"ϕ	4	15'-1"	IX	4'-5½"	5'-8"		
450	1½"ϕ	8	1'-9"	Str.				
511			4'-0"					
to	⅝"ϕ	1 ea.	by 1¾" to	Str.				
522			5'-7¼"					
523	⅝"ϕ	16	8'-2"	Str.				
524			4'-0"					
to	⅝"ϕ	1 ea.	by 1⅞" to	Str.				
536			5'-6"					
537	⅝"ϕ	18	8'-6"	Str.				
538	⅝"ϕ	20	11'-2"	Str.				
539	⅝"ϕ	77	5'-9"	Str.				
601	¾"ϕ	4	3'-9"	Str.				
602	¾"ϕ	2	11'-7"	III	13'-3"	2'-3"		
603	¾"ϕ	2	8'-0"	III	4'-8"	1'-3"		
604	¾"ϕ	2	11'-7"	III	13'-3"	2'-3"		
605	¾"ϕ	2	7'-7"	III	4'-3"	1'-3"		
606	¾"ϕ	6	3'-10"	Str.				
607	¾"ϕ	82	1'-9"	Str.				
702	⅞"ϕ	2	11'-7"	III	7'-0"	2'-6"		
703	⅞"ϕ	3	7'-10"	III	4'-5"	1'-4"		
704	⅞"ϕ	2	12'-7"	III	7'-10"	2'-8"		
705	⅞"ϕ	5	4'-4"	Str.				
706	⅞"ϕ	2	11'-4"	III	6'-10"	2'-5"		
707	⅞"ϕ	2	7'-3"	III	3'-10"	1'-4"		
708	⅞"ϕ	2	12'-3"	III	7'-7"	2'-7"		
709	⅞"ϕ	2	8'-1"	III	4'-7"	1'-5"		
710	⅞"ϕ	2	13'-4"	III	8'-5"	2'-10"		
711	⅞"ϕ	2	8'-11"	III	5'-4"	1'-6"		
712	⅞"ϕ	117	5'-3"	Str.				
713	⅞"ϕ	6	4'-6"	Str.				
801	1"ϕ	2	7'-10"	III	4'-4"	1'-5"		
802	1"ϕ	2	13'-10"	III	8'-11"	2'-10"		
803	1"ϕ	2	8'-9"	III	5'-2"	1'-6"		
804	1"ϕ	2	14'-10"	III	9'-9"	3'-0"		
805	1"ϕ	2	9'-8"	III	6'-0"	1'-7"		
806	1"ϕ	2	15'-10"	III	10'-7"	3'-2"		
807	1"ϕ	9	5'-3"	Str.				
808	1"ϕ	2	14'-5"	III	9'-4"	3'-0"		
809	1"ϕ	2	8'-9"	III	5'-1"	1'-7"		
810	1"ϕ	2	15'-4"	III	10'-1"	3'-2"		
811	1"ϕ	2	9'-8"	III	5'-11"	1'-8"		
812	1"ϕ	8	5'-3"	Str.				
813	1"ϕ	95	10'-6"	III	6'-5"	2'-0"		
814	1"ϕ	100	22'-6"	III	16'-6"	3'-11"		
815	1"ϕ	20	16'-11"	III	10'-11"	3'-11"		

BAR LIST FOR ABUT No. 1 (Cont'd)

MARK	SIZE	No. REQ'D	LENGTH	TYPE	DIMENSIONS			
					l	m	n	t
816	1"ϕ	20	10'-6"	III	6'-5"	2'-0"		
901	1⅛"ϕ	2	9'-6"	III	5'-9"	1'-8"		
902	1⅛"ϕ	2	17'-0"	III	11'-6"	3'-5"		
903	1⅛"ϕ	2	10'-6"	III	6'-8"	1'-9"		
904	1⅛"ϕ	2	18'-1"	III	12'-5"	3'-7"		
905	1⅛"ϕ	2	11'-6"	III	7'-6"	1'-11"		
906	1⅛"ϕ	2	19'-1"	III	13'-3"	3'-9"		
912	1⅛"ϕ	2	16'-6"	III	11'-0"	3'-5"		
913	1⅛"ϕ	3	9'-11"	III	6'-0"	1'-10"		
914	1⅛"ϕ	2	17'-5"	III	11'-9"	3'-7"		
915	1⅛"ϕ	2	10'-9"	III	6'-9"	1'-11"		
916	1⅛"ϕ	2	18'-4"	III	12'-6"	3'-9"		
917	1⅛"ϕ	2	11'-7"	III	7'-6"	2'-0"		
918	1⅛"ϕ	2	19'-3"	III	13'-3"	3'-11"		

SUMMARY ABUTMENT No. 1

6613 Lin ft 1½"ϕ @ 0.668 #/ft = 4417
1069 Lin ft ⅝"ϕ @ 1.043 #/ft = 1115
283 " " ¾"ϕ @ 1.502 #/ft = 425
857 " " ⅞"ϕ @ 2.044 #/ft = 1,752
4123 " " 1"ϕ @ 2.670 #/ft = 11,008
389 " " 1⅛"ϕ @ 3.400 #/ft = 1323
± 1% Overrun = 200
Total = 20,240#

T.J.M. BLI & MGD

BAR LIST FOR ABUTMENT No. 4

MARK	SIZE	No. REQ'D	LENGTH	TYPE	DIMENSIONS			
					l	m	n	t
4100	1½"ϕ	45	34'-4"	Str.				
4101			22'-4"					
to	1½"ϕ	2 ea.	by 11" to	Str.	(Field Bend)			
4105			26'-0"					
4106			27'-0"					
to	1½"ϕ	1 ea.	by 12" to	Str.	(Field Bend)			
4110			31'-0"					
4111	1½"ϕ	13	17'-8"					
4112			2'-6"					
to	1½"ϕ	1 ea.	by 2'-5½"	Str.				
4118			to 17'-3"					
4119	½"ϕ	60	20'-0"	Str.				
4120	½"ϕ	60	28'-6"	Str.				
4121			25'-0"					
to	½"ϕ	2 ea.	by 10½" to	Str.	(Field Bend)			
4125			28'-6"					
4126			29'-0"					
to	½"ϕ	1 ea.	by 10½" to	Str.	(Field Bend)			
4130			32'-6"					
4131	½"ϕ	87	15'-0"	V	12"	4'-6½"		
4132	½"ϕ	13	19'-8"	Str.				
4133			2'-6"					
to	½"ϕ	1 ea.	by 2'-9" to	Str.				
4139			19'-0"					
4143	½"ϕ	7	15'-3"	IX	4'-7½"	5'-10"		
4144	½"ϕ	2	5'-0"	Str.				
4145	½"ϕ	8	16'-9"	V	1'-11"	5'-4½"		
4146	½"ϕ	4	16'-10"	IX	5'-4"	6'-8"		
4147	½"ϕ	23	19'-0"	Str.				
4148	½"ϕ	15	9'-10"	IV	2'-0"	5'-1"		
550	⅝"ϕ	85	6'-4"	Str.				
551			4'-3"					
to	⅝"ϕ	1 ea.	by 1½" to	Str.				
562			5'-7½"					
563	⅝"ϕ	16	8'-6"	Str.				
564			4'-3"					
to	⅝"ϕ	1 ea.	by 1¼" to	Str.				
577			5'-7¼"					
578	⅝"ϕ	18	8'-6"					
579	⅝"ϕ	22	11'-2"	Str.				
620	¾"ϕ	4	4'-0"	Str.				
621	¾"ϕ	2	7'-11"	III	4'-6"	1'-4"		
622	¾"ϕ	2	18'-5"	III	13'-11"	2'-5"		
623	¾"ϕ	3	8'-6"	III	5'-0"	1'-5"		

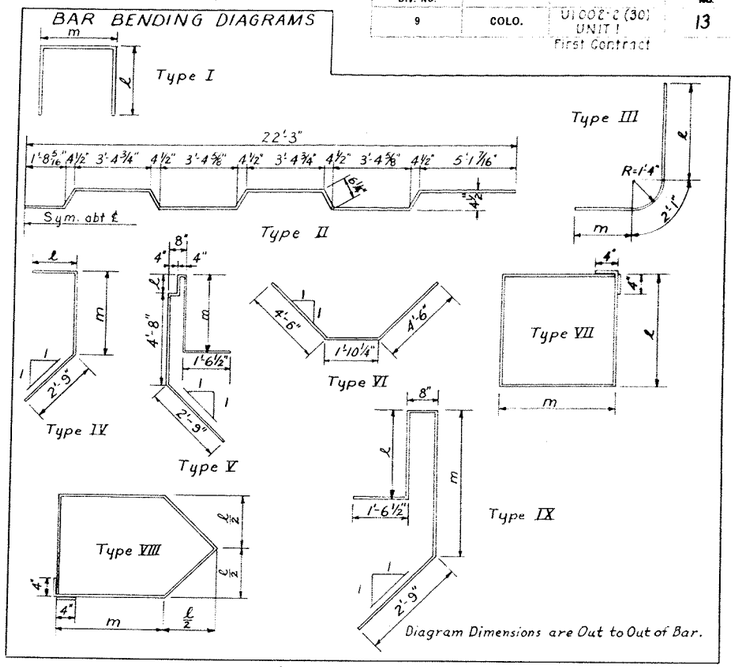
BAR LIST FOR ABUT. No. 4 (Cont'd)

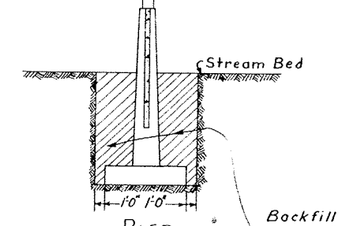
MARK	SIZE	No. REQ'D	LENGTH	TYPE	DIMENSIONS			
					l	m	n	t
624	¾"ϕ	2	18'-6"	III	13'-11"	2'-6"		
625	¾"ϕ	5	4'-0"	Str.				
627	¾"ϕ	82	1'-9"	Str.				
720	⅞"ϕ	4	4'-6"	Str.				
721	⅞"ϕ	129	5'-4"	Str.				
723	⅞"ϕ	2	7'-9"	III	4'-3"	1'-5"		
724	⅞"ϕ	3	12'-11"	III	8'-3"	2'-7"		
725	⅞"ϕ	2	8'-7"	III	5'-0"	1'-6"		
726	⅞"ϕ	2	12'-4"	III	7'-7"	2'-8"		
727	⅞"ϕ	2	7'-11"	III	4'-4"	1'-6"		
728	⅞"ϕ	2	13'-3"	III	8'-4"	2'-10"		
729	⅞"ϕ	2	8'-9"	III	5'-1"	1'-7"		
730	⅞"ϕ	5	4'-6"	Str.				
818	1"ϕ	22	18'-2"	III	11'-11"	4'-2"		
819	1"ϕ	22	11'-1"	III	6'-11"	2'-1"		
820	1"ϕ	10	5'-6"	Str.				
821	1"ϕ	2	22'-4½"	III	16'-2"	4'-1½"		
822	1"ϕ	3	14'-8"	III	9'-8"	2'-11"		
823	1"ϕ	3	8'-10"	III	5'-2"	1'-7"		
824	1"ϕ	2	15'-9"	III	10'-6"	3'-2"		
825	1"ϕ	2	9'-8"	III	5'-11"	1'-8"		
826	1"ϕ	105	22'-6"	III	16'-2"	4'-3"		
827	1"ϕ	106	11'-2"	III	6'-11"	2'-2"		
828	1"ϕ	3	14'-9"	III	9'-8"	3'-0"		
829	1"ϕ	3	10'-1"	III	5'-0"	3'-0"		
830	1"ϕ	2	15'-8"	III	10'-4"	3'-3"		
831	1"ϕ	2	9'-7"	III	5'-9"	1'-9"		
832	1"ϕ	11	5'-4"	Str.				
930	1⅛"ϕ	2	16'-11"	III	11'-6"	3'-4"		
931	1⅛"ϕ	3	10'-3"	III	6'-5"	1'-9"		
932	1⅛"ϕ	2	17'-11"	III	12'-4"	3'-6"		
933	1⅛"ϕ	2	11'-1"	III	7'-2"	1'-10"		
934	1⅛"ϕ	2	18'-11"	III	13'-2"	3'-8"		
935	1⅛"ϕ	2	12'-0"	III	8'-0"	1'-11"		
936	1⅛"ϕ	2	19'-10"	III	13'-11"	3'-10"		
938	1⅛"ϕ	3	17'-2"	III	11'-8"	3'-5"		
939	1⅛"ϕ	2	9'-4"	III	5'-5"	1'-10"		
941	1⅛"ϕ	2	10'-2"	III	6'-2"	1'-11"		
942	1⅛"ϕ	2	18'-1"	III	12'-5"	3'-7"		
943	1⅛"ϕ	2	11'-0"	III	6'-11"	2'-0"		
944	1⅛"ϕ	2	18'-11"	III	13'-1"	3'-9"		
945	1⅛"ϕ	2	11'-9"	III	7'-1"	2'-1"		
946	1⅛"ϕ	2	19'-10"	III	13'-11"	3'-10"		

BAR SUMMARY ABUTMENT No. 4

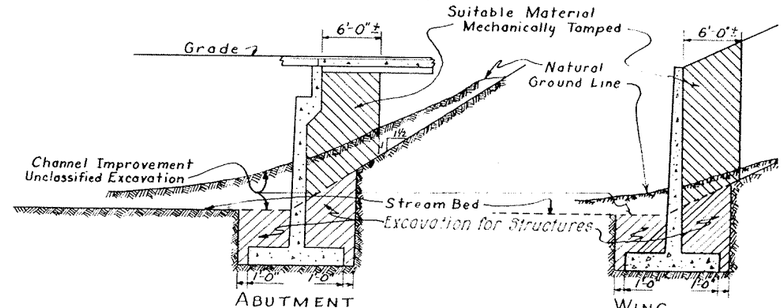
8100 Lin ft 1½"ϕ @ 0.668 #/ft = 5410#
1201 " " ⅝"ϕ @ 1.043 #/ft = 1254
295 " " ¾"ϕ @ 1.502 #/ft = 444
884 " " ⅞"ϕ @ 2.044 #/ft = 1807
4594 " " 1"ϕ @ 2.670 #/ft = 12266
474 " " 1⅛"ϕ @ 3.400 #/ft = 1612
± 1% Overrun = 227
TOTAL 23020#

BAR BENDING DIAGRAMS





Backfill behind Abutments shall be ma
before Superstructure is poured



STRUCTURE BACKFILL AND MECHANICAL TAMPING DIAGRAMS

NOTE: Structure Backfill shall be made from material excavated for Structures.

FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.
9	COLO.	UI 002-2 (30) UNIT 1 First Contract	13

COLORADO
DEPARTMENT OF HIGHW
CONTINOUS W BEAMS & CONC
2 BRIDGES - EACH 3 SPANS 4
38' RDWY 3'-3½" CURBS 85°
BAR LISTS, SUMMARIES, BE
DIAGRAMS AND TAMPING DI

Across South Platte River at W
In Denver Sec. 5 T. 4 S.

Designed by T.J.M.
Made by B.L.I.
Checked by
Approved by
Bridge Engine
Date: July 24,

NORTH BRIDGE - STR. NO. F-16-EE STA. 54+98.82 to 56+57.25
SOUTH BRIDGE - STR. NO. F-16-EF STA. 54+92.00 to 56+50.43