

INACTIVE AUG 23 1972

STATE DEPARTMENT OF HIGHWAYS
DIVISION OF HIGHWAYS—STATE OF COLORADO

FEDERAL ROAD DISTRICT NO.	DIVISION	PROJECT NO.	SHEET NO.
9	COLORADO	F 058-1(1)	1

R.O.W. AND UTILITIES OBLIGATED UNDER PROJECT F 032-1(9)

INDEX OF SHEETS

PLAN AND PROFILE OF PROPOSED
FEDERAL AID PROJECT NO. F 058-1(1)
STATE HIGHWAY NO. 58
JEFFERSON COUNTY

- SHEET NO.
1. SKETCH MAP AND TITLE PAGE
 2. TYPICAL SECTIONS AND TABULATION OF LENGTH AND DESIGN
 3. SUMMARY OF APPROXIMATE QUANTITIES
 - 4.-20. DETAILS OF STRUCTURE NO. E-16-H1
 - 21.-22. ALIGNMENT PLAN AND PROFILE
 23. PROFILE 8' X 7' X 190' C.B.C.

CONVENTIONAL SIGNS

CENTER LINE
RIGHT OF WAY LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
LAND LINES
RAILROAD
BARBED WIRE FENCE
CHAIN LINK FENCE
BEAM TYPE GUARD RAIL
TELEPHONE & TELEGRAPH POLES
POWER POLES
DETOUR
PRESENT ROAD (Plan Sheets)
CONTROL OF ACCESS LINE
ACCESS DENIED BY DEED
GAS LINE
WATER LINE
TELEPHONE CONDUIT

CURB AND GUTTER (TYPE 2 SEC. 1B)
CURB AND GUTTER (TYPE 2 SEC. 11B)
CURB AND GUTTER (TYPE 2 SEC. 1M)
CURB AND GUTTER (TYPE 2 SEC. 11M)
GUTTER TYPE 2 (8 FOOT)
CURB TYPE 6 (SECTION M)

EXISTING CURB AND GUTTER
EXISTING SANITARY SEWERS
EXISTING STORM SEWERS
NEW STORM SEWER CONSTRUCTION

SCALES OF ORIGINAL DRAWINGS

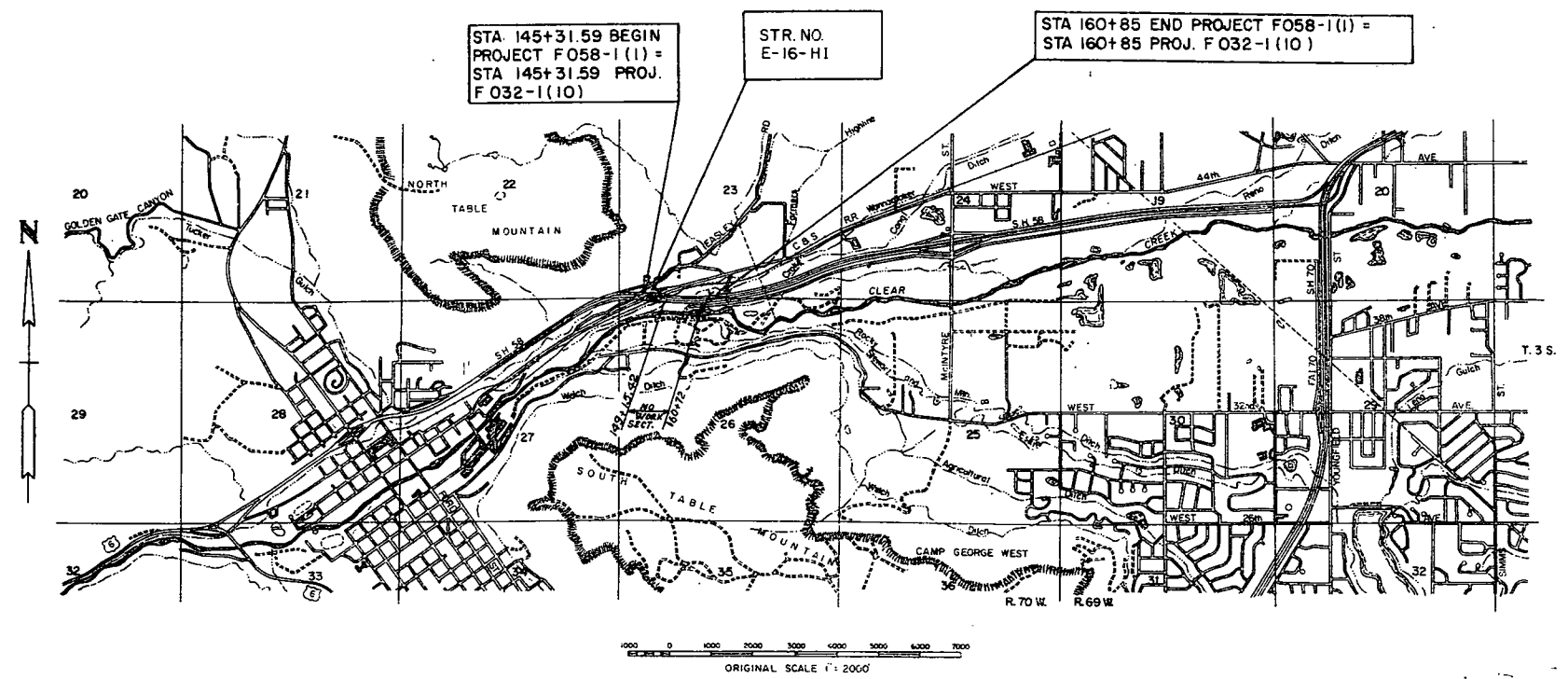
ON PLAN: 1 IN. = 50 FT.
ON PROFILE: 1 IN. = 50 FT. HORIZONTAL
1 IN. = 12 FT. VERTICAL

GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD
GROSS LENGTH OF PROJECT 1,553.41 LIN. FT. = 0.294 MI.
NET LENGTH OF PROJECT 396.83 LIN. FT. = 0.075 MI.

- M-203-A-1 SUPERELEVATION OF CURVES DIVIDED HIGHWAYS 7-30-68
- M-206 A EXCAVATION AND BACKFILL FOR STRUCTURES (2 Sheets) 11-1-68
- M-500 A LETTERS AND FIGURES FOR STRUCTURE NUMBERS 7-1-65
- M-601 A SINGLE AND DOUBLE CONCRETE BOX CULVERTS 10-25-68
- M-601 D WINGWALLS FOR CONCRETE BOX CULVERTS (2:1 Side Slopes) 10-25-68
- M-606 B GUARD RAIL, TYPE 5, BOX BEAM MEDIAN BARRIER STEEL (2 Sheets) 12-10-69
- M-612 A MARKER POSTS AND BENCH MARKS 7-24-68
- M-614 A TIMBER BARRICADES 4-23-69
- M-614 IC STANDARD CONSTRUCTION IDENTIFICATION SIGNS (2 Sheets) 5-20-69
- M-614 TB TRAFFIC SIGNING FOR HIGHWAY CONSTRUCTION (3 Sheets) 12-24-68

CONTRACTOR:
RESIDENT ENGINEER:
DATE OF COMPLETION:

R. L. MAYER



W. E. MITCHELL

DIVISION OF HIGHWAYS

APPROVED *[Signature]* 4-15-70
CHIEF ENGINEER DATE

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

APPROVED _____ DATE _____
DIVISION ENGINEER

W. E. M.

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F 058-1(1)	2	

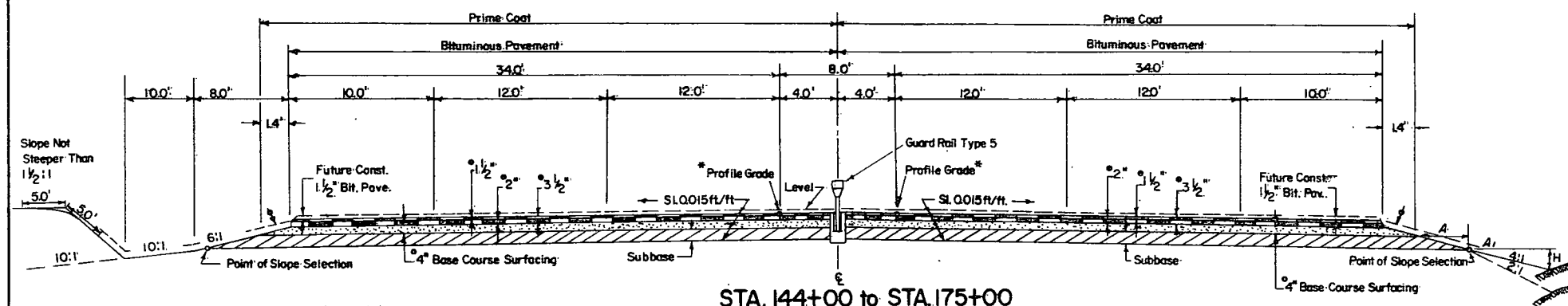
NOTES:

See Standards for details of cut slope treatment, flaring and widening.

Excavation below 4:1 Slope and/or 10:1 slope will not be permitted.

The depth and width of side ditch shall be varied where necessary in order to provide proper drainage and or entrance to drainage structures.

TYPICAL SECTIONS



TRANSITION FROM NON-DEPRESSED TO DEPRESSED MEDIAN STA. 166+00 TO STA. 175+00

FILL SLOPES	
"H"	"V"
4' or Less	6:1
4' to 10'	4:1
Over 10'	3:1

In Special Cases Slope May Be Steeper

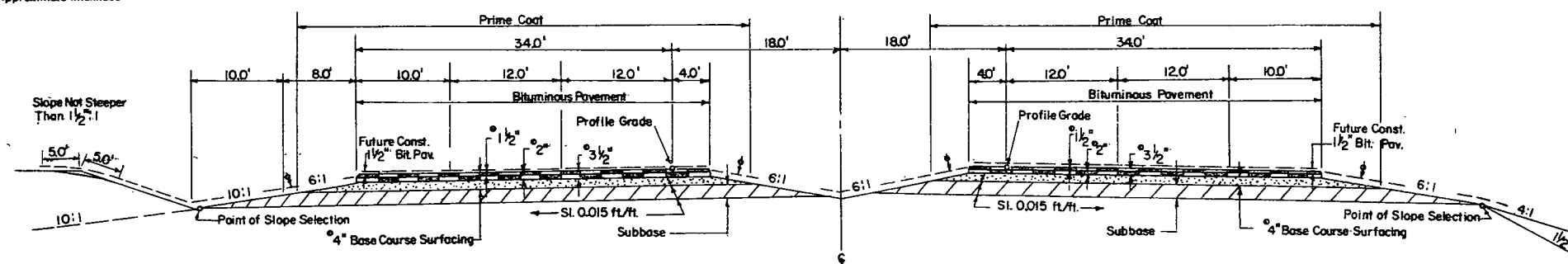
Break points on slopes and in bottoms of ditches shall be rounded on construction for pleasing appearance.

Contractor will be required to place top soil to this line after completion of paving operations.

* Profile grade is at centerline from station 127+31 to station 156+98

A, A, Vary to match fill slope that is actually constructed.

* Approximate thickness



STA. 175+00 to STA. 297+49.8

TABULATION OF LENGTH AND DESIGN DATA

LOCATION	WORK	SECTION	NO. WORK SECTION
	STRUCTURE	ROADWAY	ROADWAY
	LIN. FT.	LIN. FT.	LIN. FT.
STA. 145+31.59 BEGIN PROJECT F 058-1(1) = STA. 145+31.59 PROJECT F 032-1(10)	383.83		
STR. NO. E-16-HI STA. 149+15.42 BEGIN NO WORK SECTION			1,156.58
STA. 160+72 END NO WORK SECTION.		13.00	
STA. 160+85 END PROJ. F 058-1(1) = STA. 160+85 PROJ. F 032-1(10)			
TOTALS	383.83	13.00	1,156.58
SUMMARY			
	LIN. FT.		MILES
STRUCTURE LENGTH	383.83		0.073
NET LENGTH CONSTRUCTION	396.83		0.075
NO WORK SECTION ROADWAY	1,156.58		0.219
GROSS LENGTH OF PROJECT	1,553.41		0.294
MAXIMUM DEGREE OF CURVE: 3° 00'			
MAXIMUM GRADE: 6.00%			
MINIMUM S.S.D. HORIZONTAL: 1,185'			
MINIMUM S.S.D. VERTICAL: 530'			
MAXIMUM DESIGN SPEED: 60 M.P.H.			
1989 Design Traffic Volume [11,480 ADT 1,260 DHV			

SUMMARY OF APPROXIMATE QUANTITIES

(R-1) Rev. 5-13-70 W.E.M.

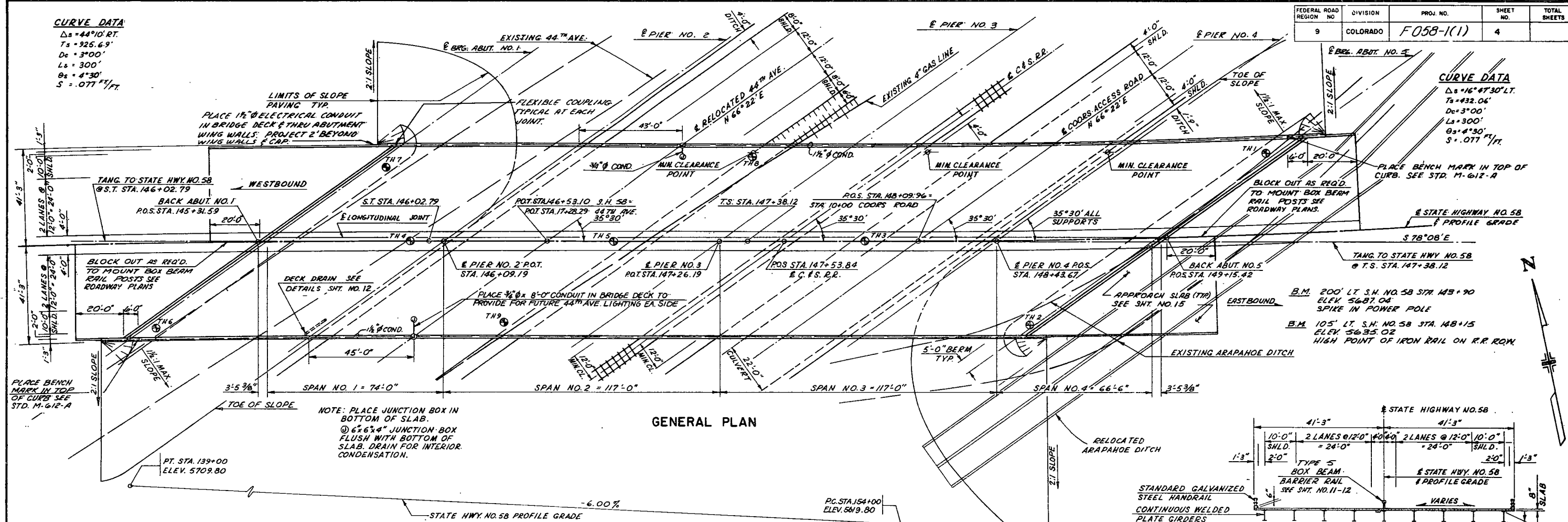
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F 058-1 (1)	3	

CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY	STR. NO. E-16-H1	PROJECT TOTALS
206	Structure Excavation (Haul)	CU. YD.	290	500	790
206	Structure Backfill (Class 3) (Haul)	CU. YD.	360	750	1110
412	Concrete Pavement (10 Inch)	SQ. YD.	884		884
502	Steel Piling (12 BP 53)	Lin. Ft.		1970	1970
507	Concrete Slope and Ditch Paving (Reinforced)	CU. YD.		345	345
509	Structural Steel	LB.		691,547	691,547
509	Structural Steel (Galvanized)	LB.		30,750	30,750
516	Dampproofing (Linseed Oil)	SQ. YD.		4,540	4,540
518	Bridge Compression Joint Sealer (Type A)	Lin. Ft.		520	520
601	Concrete (Class A)	CU. YD.	217	775	992
601	Concrete (Class D)	CU. YD.		844	844
602	Reinforcing Steel	Lb.	58,600	329,600	388,200
606	Guard Rail Type 5	Lin. Ft.		382	382
609	Curb Type 2 (Section-Variable)	Lin. Ft.	199		199
613	3/4 Inch Electrical Conduit	Lin. Ft.		20	20
613	1-1/2 Inch Electrical Conduit	Lin. Ft.		810	810
614	Flagging	Hour	500		500
619	6 Inch Galvanized Pipe (Standard)	Lin. Ft.		35	35
620	Field Laboratory	Each	1		1
626	Mobilization	L. S.	0		0
	FORCE ACCOUNT Preparation of Project Site	L. S.	0		0
	STATE FORCES Furnish and Installing Identification Signs	Each	2		2
	(R-1) RAILROAD FORCE ACCOUNT				
(R-1)	Railroad Flagging	L. S.			0
	Railroad Work Under Structure	L. S.			0

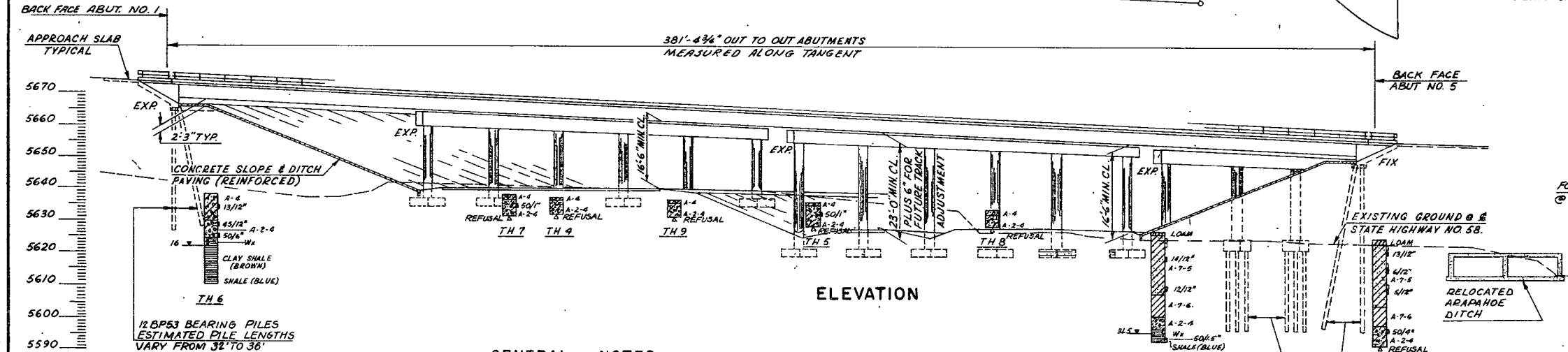
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 $L_s = 300'$
 $\theta_s = 4^\circ 30'$
 $S = .077 \text{ FTL}$

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F058-1(1)	4	

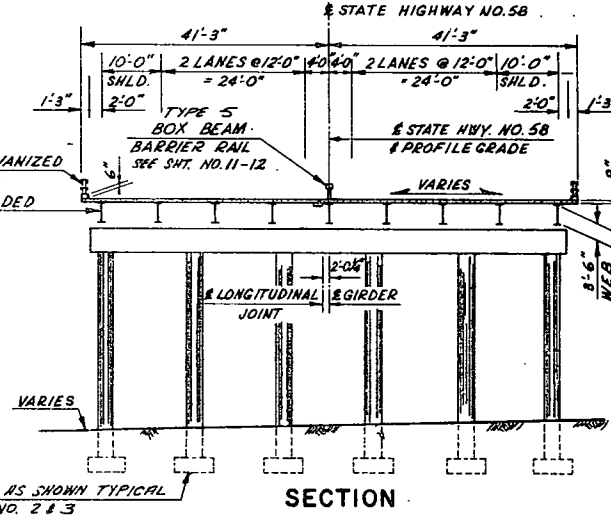
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GENERAL PLAN



ELEVATION



SECTION

- ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO DEPARTMENT OF HIGHWAYS APPLICABLE TO THE PROJECT.
- ALL REINFORCING STEEL SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR SHALL BE TAGGED WITH THE BAR DESIGNATION AND STATION NUMBER OF THE PROJECT.
- IF BY PERMISSION OF THE ENGINEER PRIMARY BARS ARE SPLICED, THEY SHALL LAP 24 DIAMETERS EXCEPT BARS NEAR THE TOP OF BEAMS AND GIRDERS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS, IN WHICH CASE THE SPLICE SHALL BE 40 DIAMETERS.
- DIMENSIONS FOR REINFORCING STEEL NOT SHOWN AS CLEAR SHALL BE TO THE CENTERLINE OF THE BAR.
- SOUNDINGS & DEPTH OF FOOTINGS 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.
- FOOTINGS IN ROCK SHALL BE POURED OUT TO ROCK AND NOT FORMED.
- WHEN EXCAVATING FOR FOOTINGS THE FINAL ONE FOOT IN DEPTH SHALL BE DONE BY HAND-LABOR METHODS.
- FOR DETAILS OF STRUCTURAL EXCAVATION AND STRUCTURE BACKFILL SEE STANDARD M-206-A.

- ALL CONCRETE SURFACES MARKED WITH THE SYMBOL (AS SHOWN ON SHEET NO. 16) SHALL RECEIVE CLASS "2" SURFACE FINISH.
- ALL STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH SECTION 509 FOR GREEN PAINT.
- BOLTS SHALL BE FURNISHED IN THE AMOUNT OF TWO PERCENT IN EXCESS OF THE NOMINAL NUMBER REQUIRED FOR EACH SIZE AND LENGTH.
- WELDING SHALL CONFORM TO THE LATEST EDITION OF THE A.W.S. STANDARD SPECIFICATIONS FOR WELDING HIGHWAY BRIDGES.
- FOR WELDED GIRDERS ALL SHOP BUTT WELDS IN FLANGES AND WEBS SHALL BE MADE BEFORE WELDING INTO GIRDER.
- SHOP WELDS SHALL BE INSPECTED RADIOGRAPHICALLY OR BY THE PENETRANT DYE METHOD.
- ALL STRUCTURAL STEEL NOT OTHERWISE NOTED SHALL BE A. S. T. M. A36-62T.
- ALL CONCRETE CHAMFERS TO BE 3/4" UNLESS OTHERWISE NOTED.

NOTE: ALL PILE LENGTHS ARE ESTIMATED
ALL PILING ARE END BEARING

NOTE: All cross reference numbers are Bridge sheet numbers.

Reviewed P.C. 7-23-68

Sheet 1 of 17
STRUCTURE NO. E-16-HI

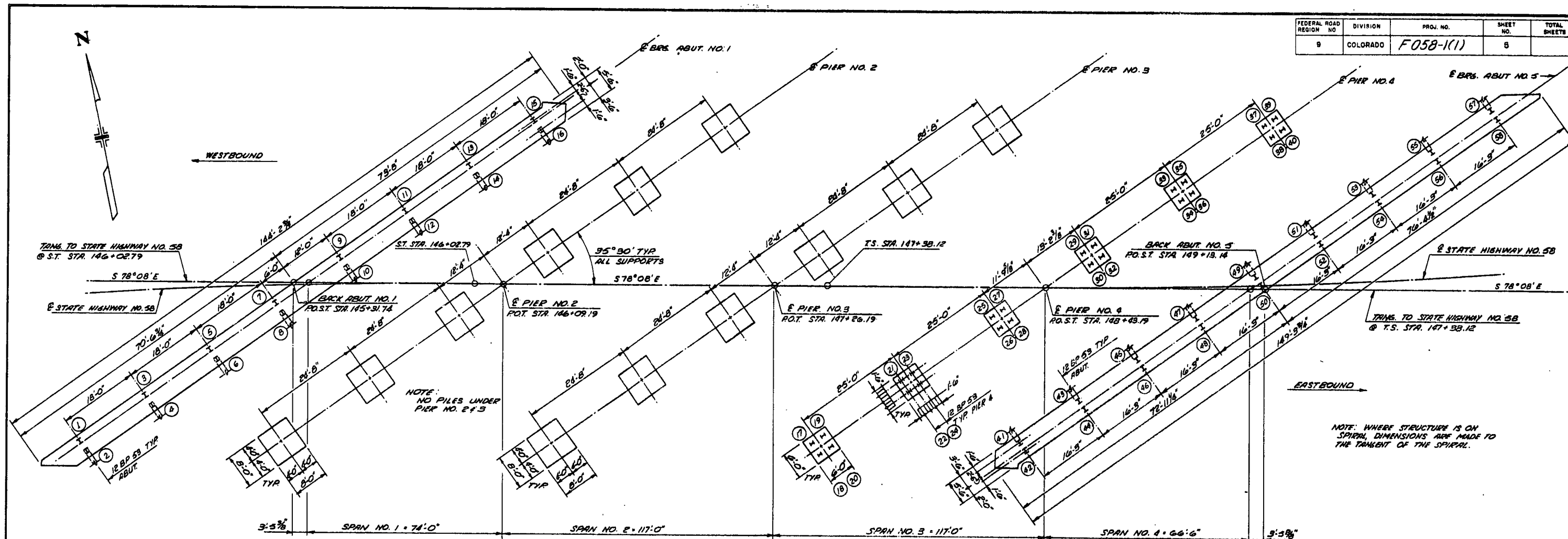
- DESIGN SPECIFICATIONS
- 1965 A. A. S. H. O. AND SUBSEQUENT REVISIONS.
 - LIVE LOAD: HS20-44
 - DEAD LOAD: CONCRETE = 150 P.C.F.
 - WEIGHT OF EARTH = 120 P.C.F.
 - EQUIVALENT FLUID PRESSURE = 30 P.C.F.
 - CONCRETE:
 $f_c = 3,000 \text{ p.s.i.}$
 $f_s (\text{REINF.}) = 20,000 \text{ p.s.i.}$
 $n = 10$
 - STRUCTURAL STEEL:
 $f_s (A36) = 20,000 \text{ p.s.i.}$
 $f_s (A441) = 23,000/25,000/27,000 \text{ p.s.i.}$
 - DEAD LOAD ASSUMES 1.5 LBS PER SQ. FT. ADDITIONAL WEARING SURFACE WHICH INCLUDES THE 1/2 INCH CONCRETE MONOLITHIC WEARING SURFACE SHOWN.

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO

STATE HIGHWAY NO. 58
GRADE SEPARATION
GENERAL PLAN & ELEVATION

THE KEN R. WHITE CO.
DENVER, COLORADO

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F058-1(1)	5	

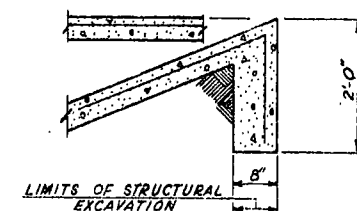


SUBSTRUCTURE LAYOUT

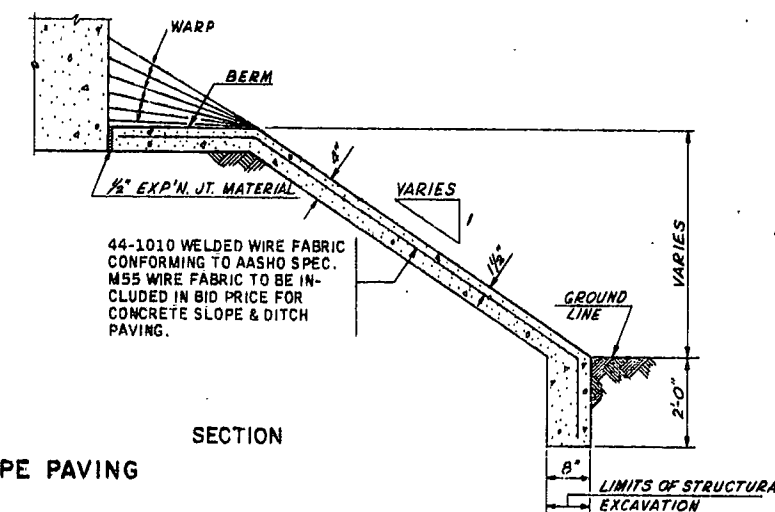
SUMMARY OF QUANTITIES									
ITEM NO.	DESCRIPTION	UNIT	SUPER STRUCT.	ABUT. NO. 1	PIER NO. 2	PIER NO. 3	PIER NO. 4	ABUT. NO. 5	TOTAL
206	STRUCTURE EXCAVATION	CU. YDS.		21	134	215	104	24	498
206	STRUCTURE BACKFILL (CLASS 3)	CU. YDS.		224	115	140	77	193	749
502	STEEL PILING (12 BP 53)	LIN. FT.		545			630	795	1970
507	CONCRETE SLOPE & DITCH PAVING (REINFORCED)	CU. YDS.		163				182	345
509①	STRUCTURAL STEEL	LBS.	691,547						691,547
509	STRUCT. STEEL (GALVANIZED)	LBS.	30,750						30,750
619	6" GALVANIZED PIPE (STANDARD)	LIN. FT.			35				35
516②	DAMPPOOFING (LINSEED OIL)	SQ. YDS.	4,532						4,532
518	BRIDGE COMPRESSION JOINT SEALER (TYPE A)	LIN. FT.	520						520
601	CONCRETE CLASS A	CU. YDS.		175	141	151	131	177	775
601	CONCRETE CLASS D	CU. YDS.		844					844
602	REINFORCING STEEL	LBS.	235,138	12,653	22,200	24,981	22,045	12,536	329,553
613	1 1/2 inch ELECTRICAL CONDUIT	LIN. FT.	810						810
613	3/4 inch ELECTRICAL CONDUIT	LIN. FT.	16						16
608	GUARD RAIL, TYPE 5	LIN. FT.	382						382

QUANTITY FOOTNOTES

- ESTIMATED WEIGHT FOR STRUCTURE 416,915 LBS. A36 STEEL AND 274,632 LBS. A441 STEEL INCLUDED IN THESE WEIGHTS ARE 96,385 LBS. A36 STEEL AND 58,740 LBS. A441 STEEL FOR PLATES OVER 36" WIDE.
- INCLUDES APPROACH SLAB
- 280 SQ. FT. 1/2" EXPANSION JOINT MATERIAL (TYPE 3) IS TO BE INCLUDED IN ITEM 601 (CLASS "A")
- INCLUDES HAUL



SECTION THRU CUTOFF WALL



DETAIL OF SLOPE PAVING

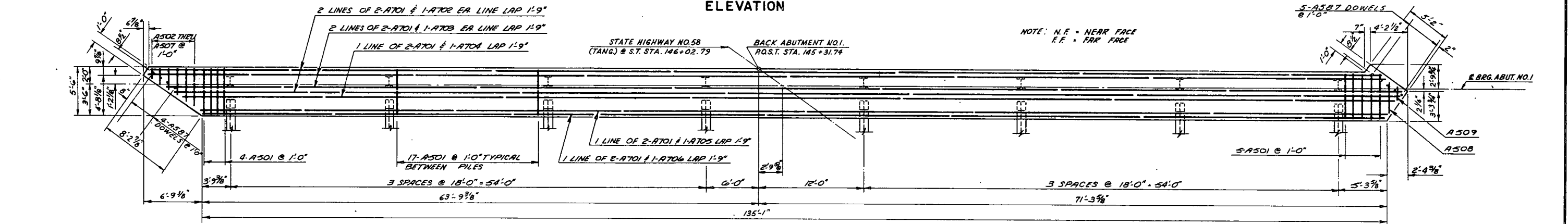
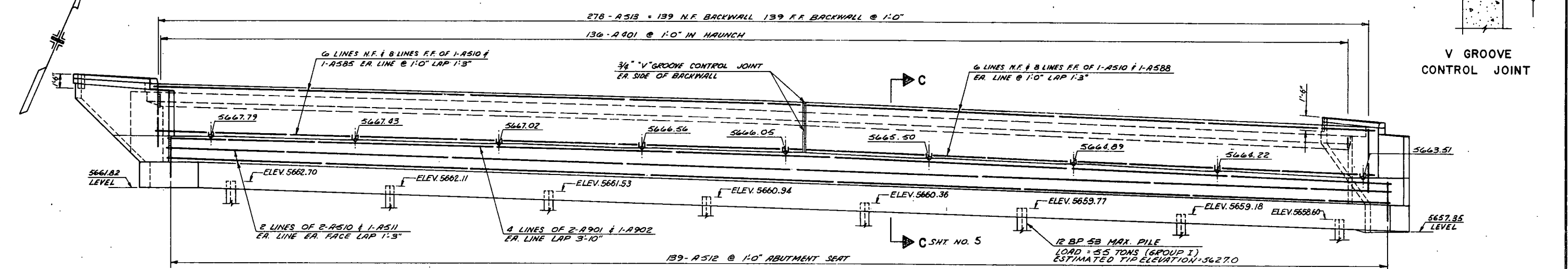
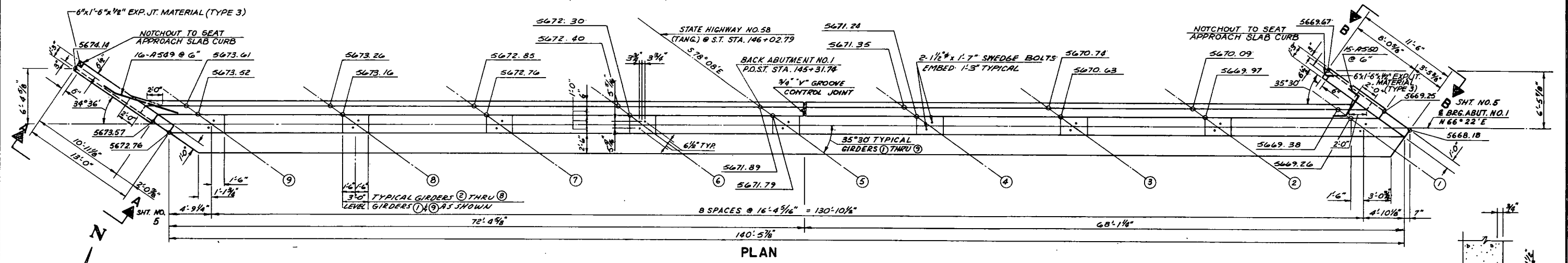
- NOTES:
- WIRE FABRIC SHALL BE 2" FROM THE END OF JOINTS AND SHALL LAP 4" AT SPLICES.
 - SLOPE PAVING SHALL BE POURED IN 10 FT. TRANSVERSE SECTIONS WITH A TOOLED CONSTRUCTION JOINT AT EACH SECTION.
 - WHERE SLOPE OR BERM PAVING BUTTS AGAINST THE ABUTMENT OR WINGS, SEPARATE WITH 1/2" EXP. JOINT MAT'L. TYPE III (INCLUDE IN BID PRICE FOR ITEM 507).
 - TRANSITION ENDS OF SLOPE PAVING MAY BE MODIFIED BY THE ENGINEER TO FIT CONDITIONS ENCOUNTERED IN THE FIELD.
 - ALL WORK NECESSARY BY THESE REQUIREMENTS SHALL BE INCLUDED IN THE BID PRICE FOR ITEM NUMBER 507.
 - CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 601.
 - CONCRETE SHALL BE CLASS "D".

Sheet 2 of 17

STRUCTURE NO. E-16-HI

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
**STATE HIGHWAY NO. 58
GRADE SEPARATION**
SUBSTRUCTURE LAYOUT
THE KEN R. WHITE CO.
DENVER, COLORADO

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F 058-1(1)	6	



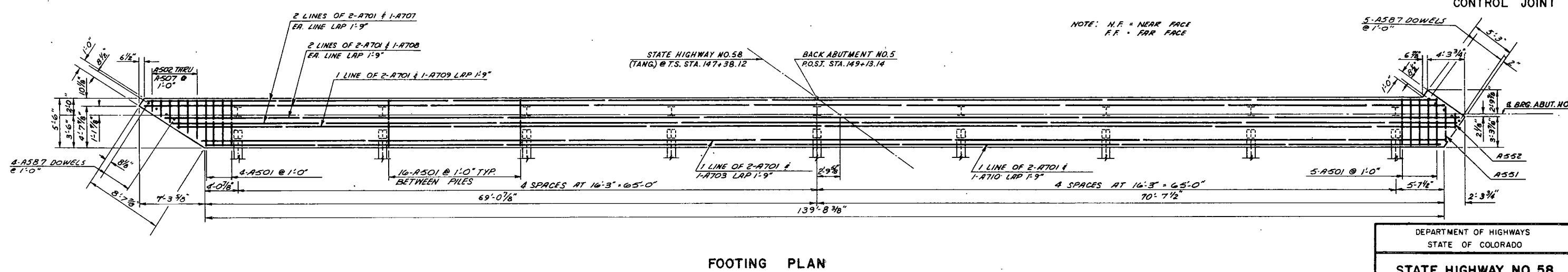
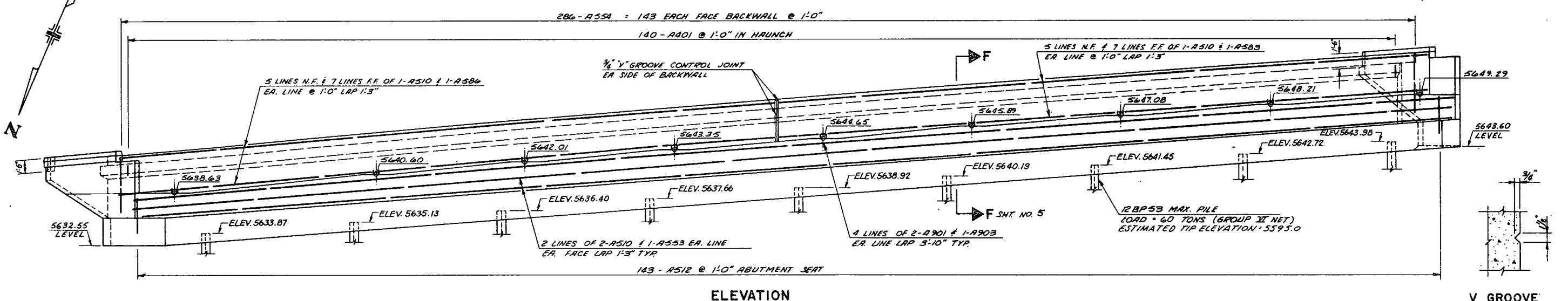
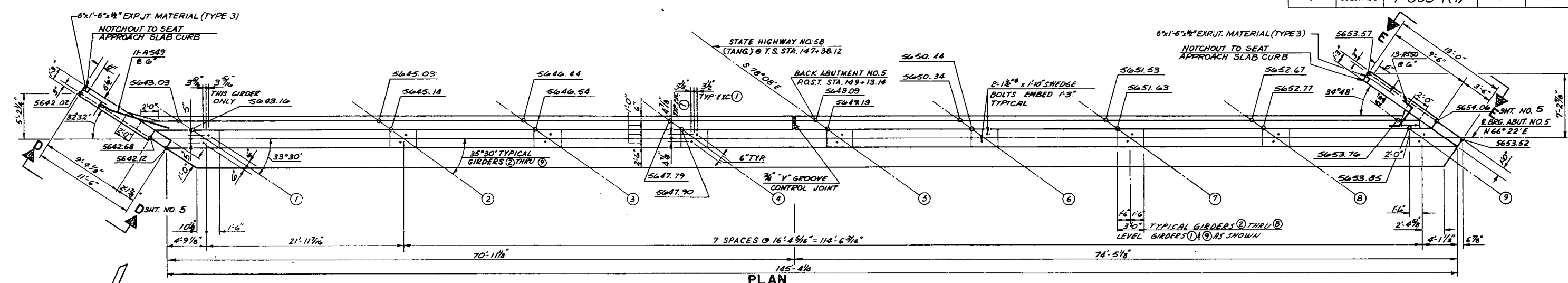
DEPARTMENT OF HIGHWAYS
STATE OF COLORADO

**STATE HIGHWAY NO. 58
GRADE SEPARATION
ABUTMENT NO. 1 DETAILS**

THE KEN R. WHITE CO.
DENVER, COLORADO

Sheet 3 of 17
STRUCTURE NO. E-16-HI

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F058-1(1)	7	



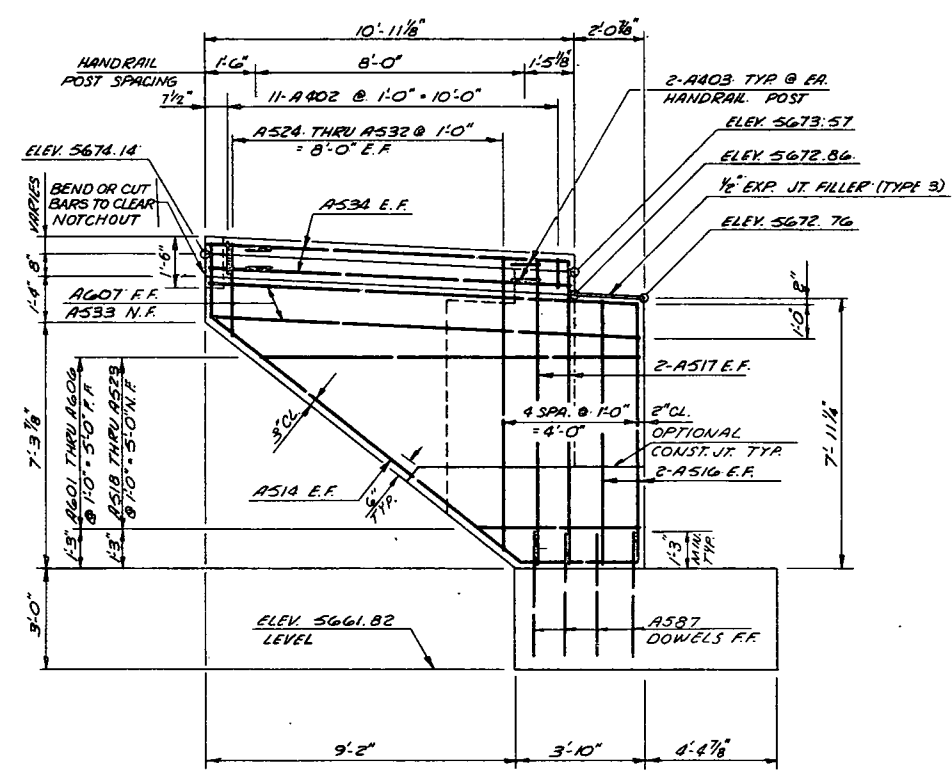
DEPARTMENT OF HIGHWAYS
STATE OF COLORADO

**STATE HIGHWAY NO. 58
GRADE SEPARATION
ABUTMENT NO. 5 DETAILS**

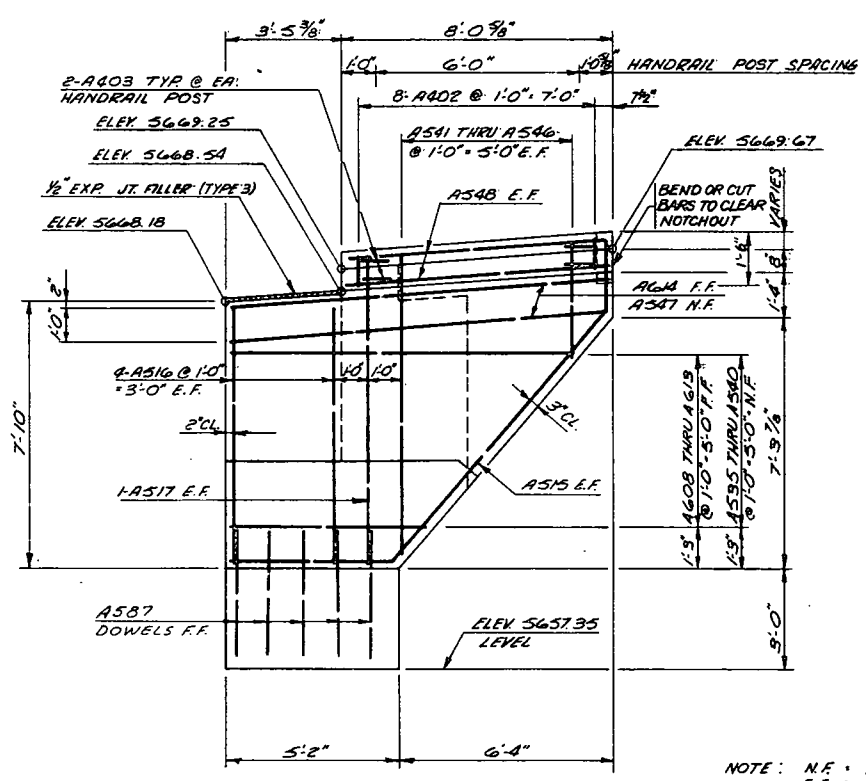
THE KEN R. WHITE CO.
DENVER, COLORADO

Sheet 4 of 17
STRUCTURE NO. E-16-HI

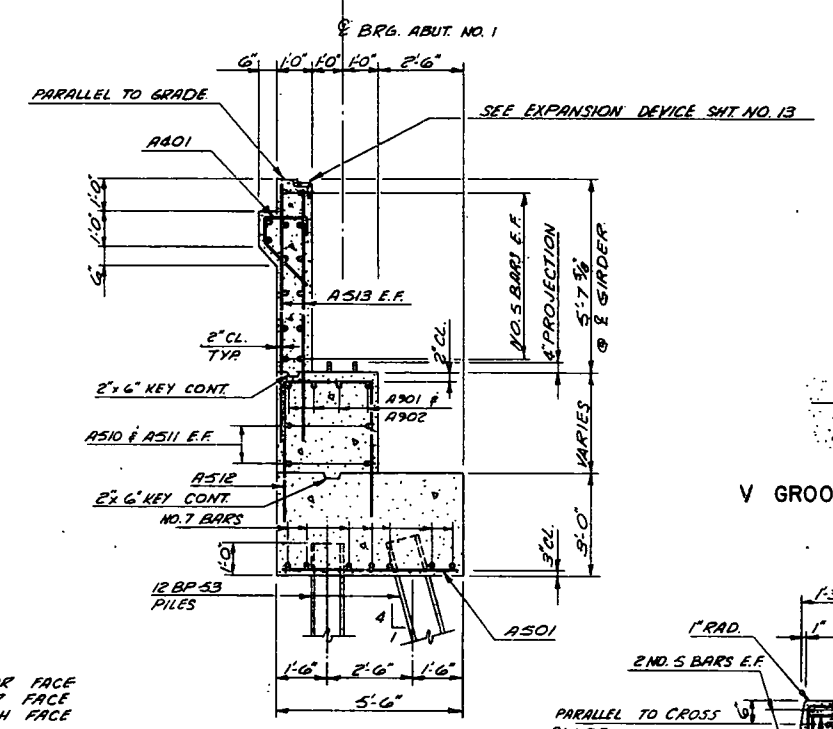
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9	COLORADO	F058-1(1)	8	



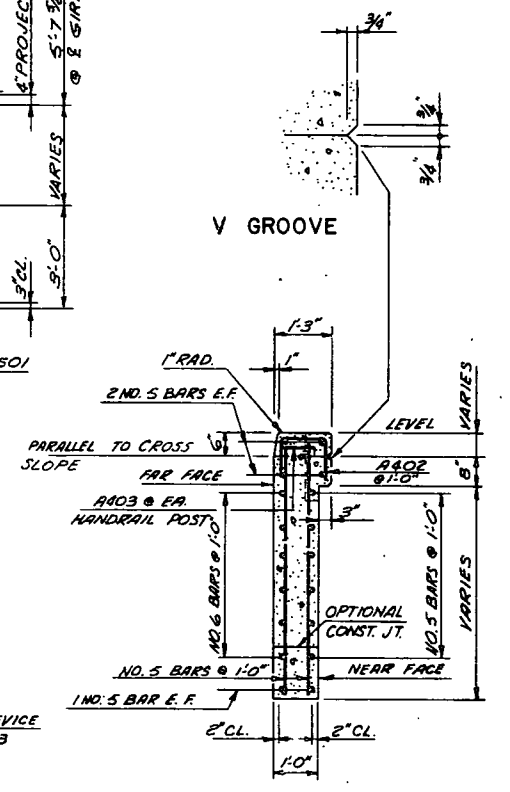
ELEVATION A-A



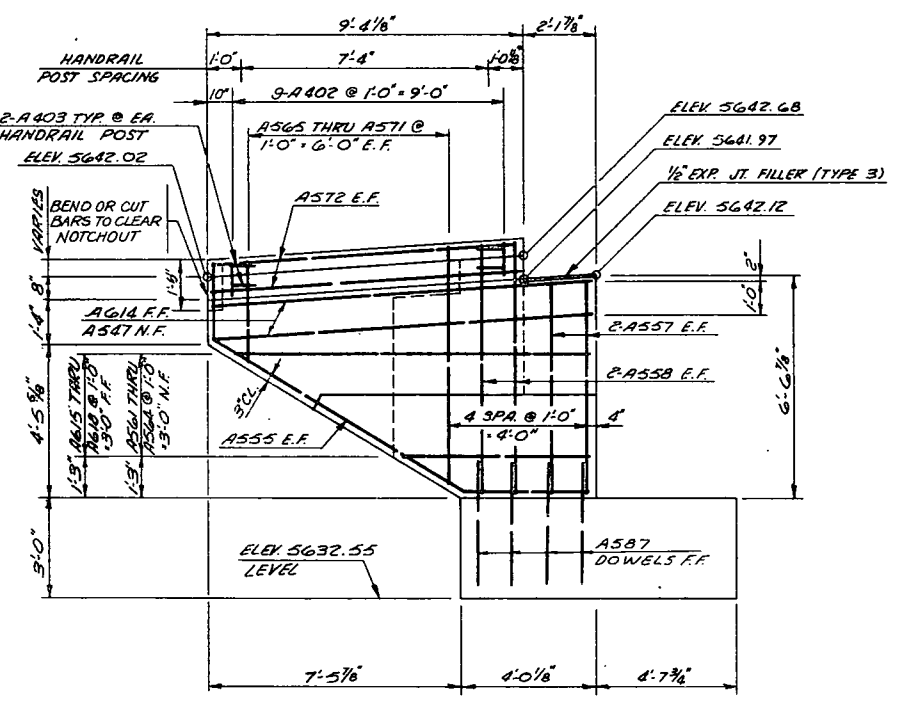
ELEVATION B-B
ABUTMENT NO. 1 DETAILS



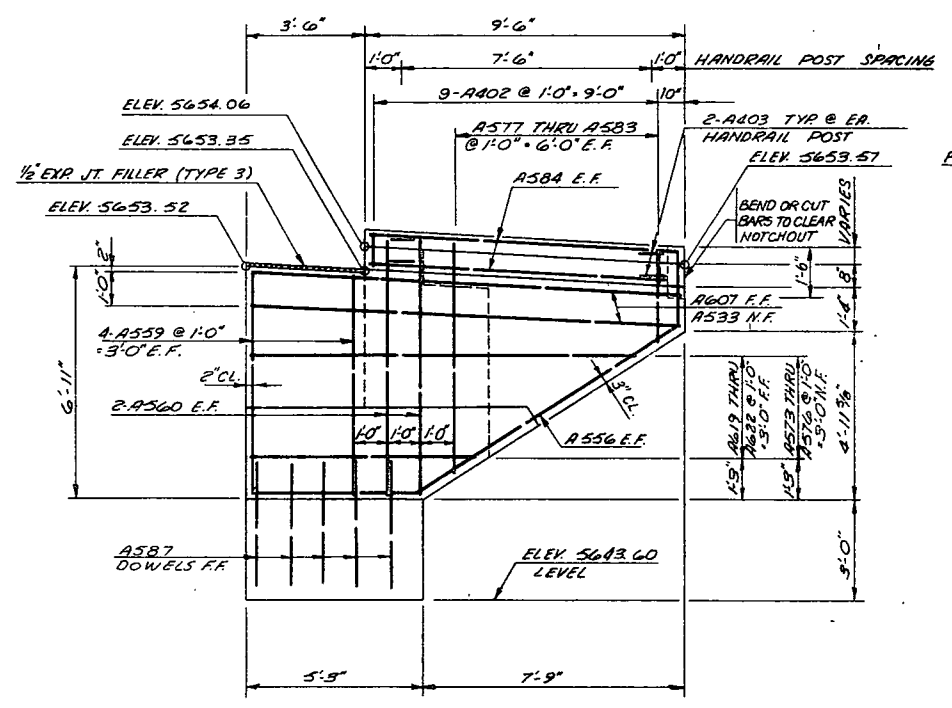
SECTION C-C



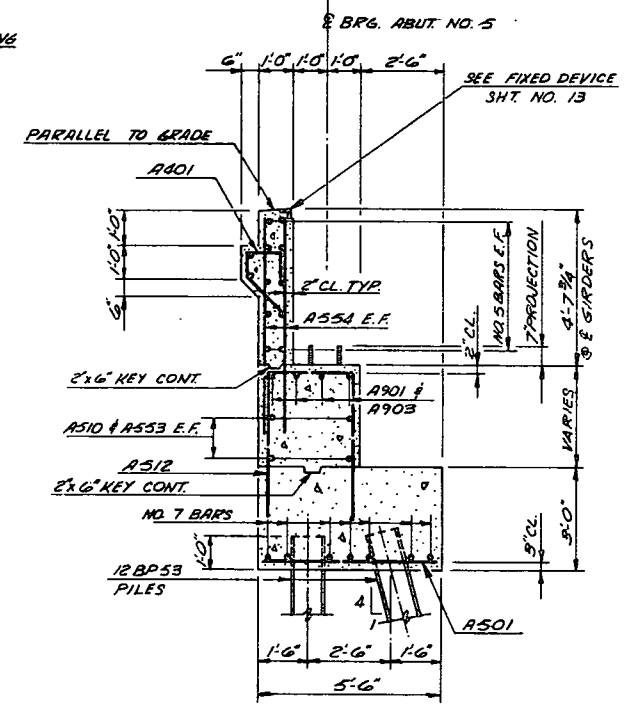
TYPICAL SECTION THRU WING



ELEVATION D-D



ELEVATION E-E
ABUTMENT NO. 5 DETAILS



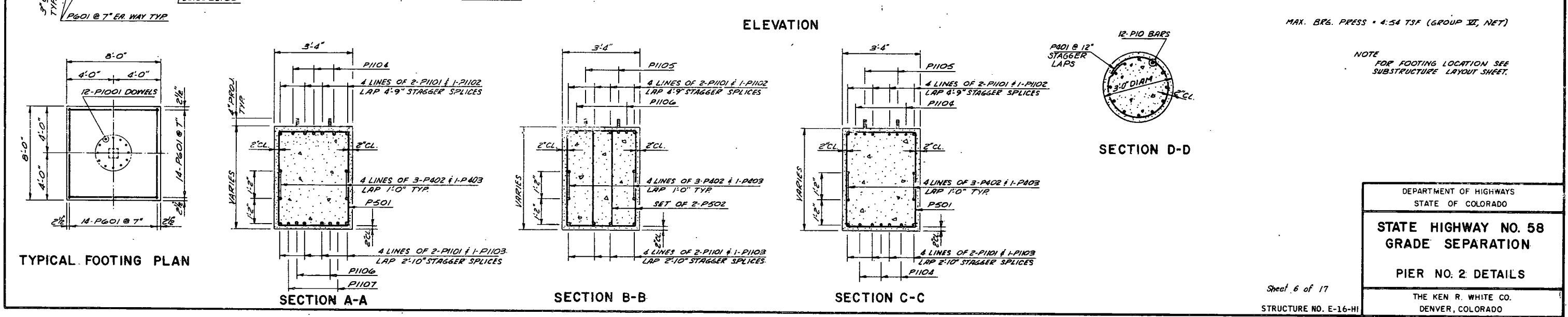
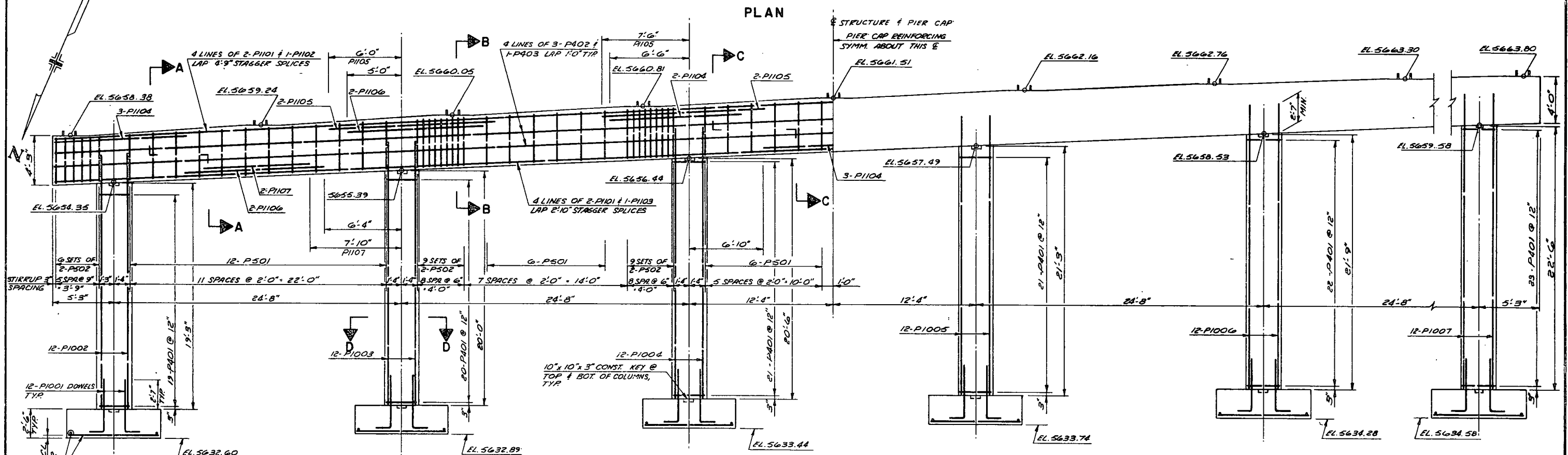
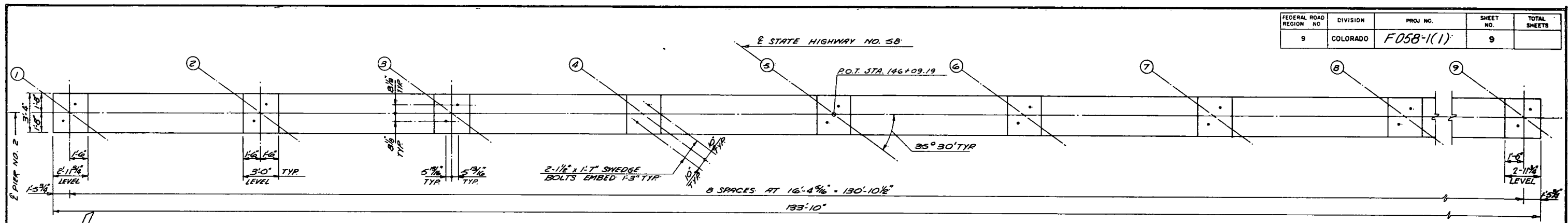
SECTION F-F

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO

STATE HIGHWAY NO. 58
GRADE SEPARATION
MISCELLANEOUS
ABUTMENT DETAILS

THE KEN R. WHITE CO.
DENVER, COLORADO

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F058-1(1)	9	



MAX. BRG. PRESS = 4.54 TSF (GROUP II, NET)

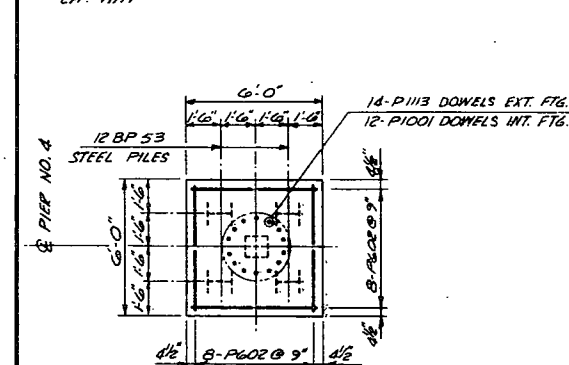
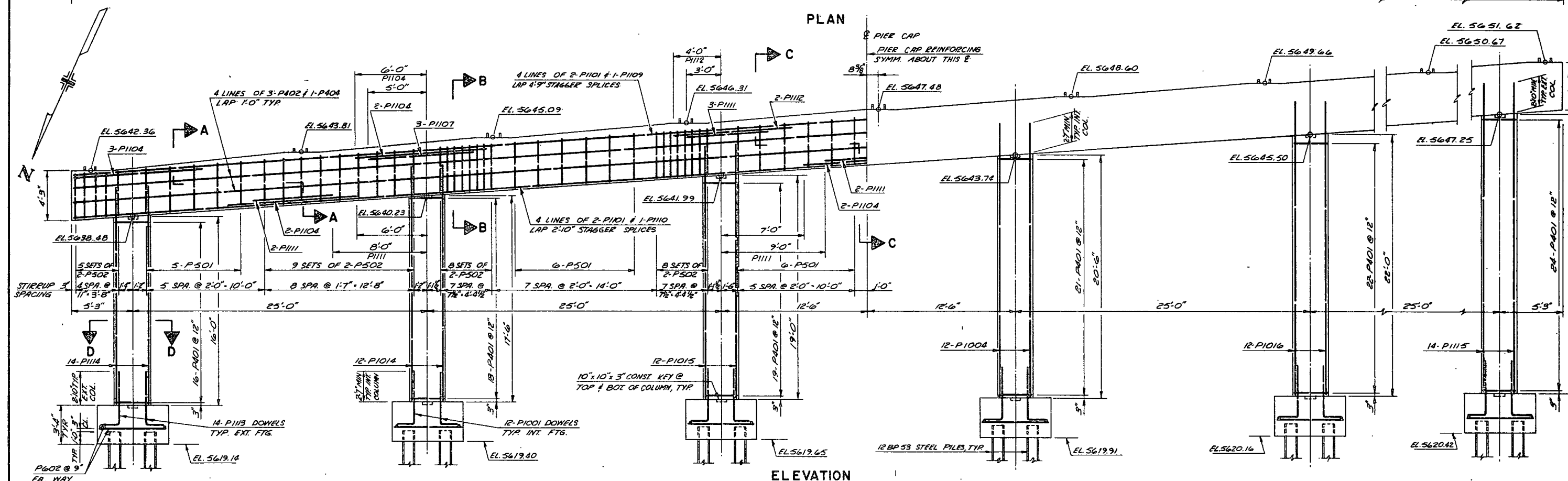
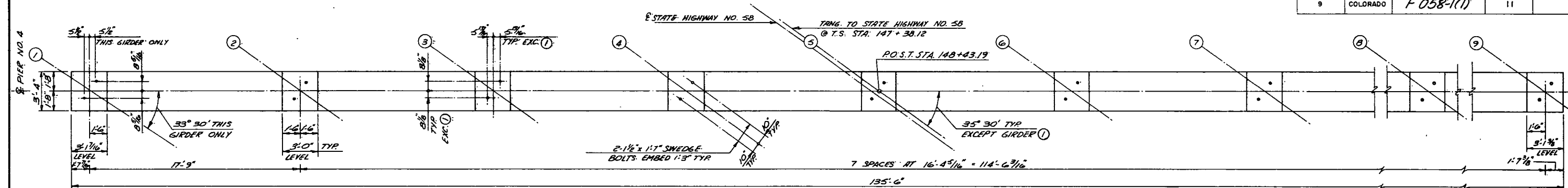
NOTE FOR FOOTING LOCATION SEE SUBSTRUCTURE LAYOUT SHEET.

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO

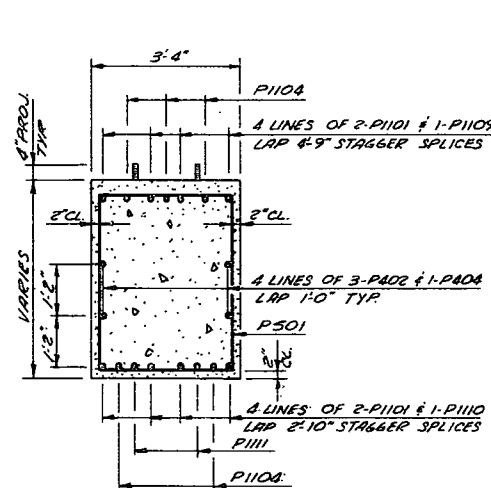
STATE HIGHWAY NO. 58
GRADE SEPARATION
PIER NO. 2 DETAILS

THE KEN R. WHITE CO.
DENVER, COLORADO

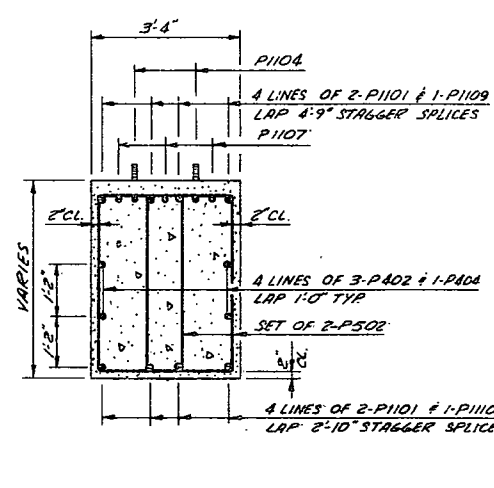
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9	COLORADO	F 058-1(1)	11	



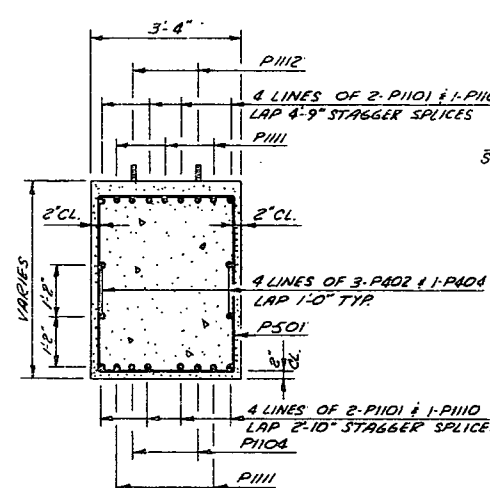
TYPICAL FOOTING PLAN



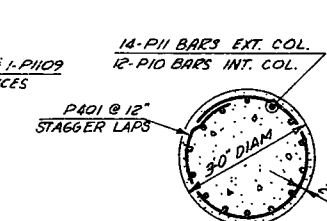
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

MAX. PILE LOAD = 70 TONS / PILE (GROUP II NET)
ESTIMATED TIP ELEVATION = 5595.0

NOTES:
FOR FOOTING LOCATION SEE
SUBSTRUCTURE LAYOUT SHEET.

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO

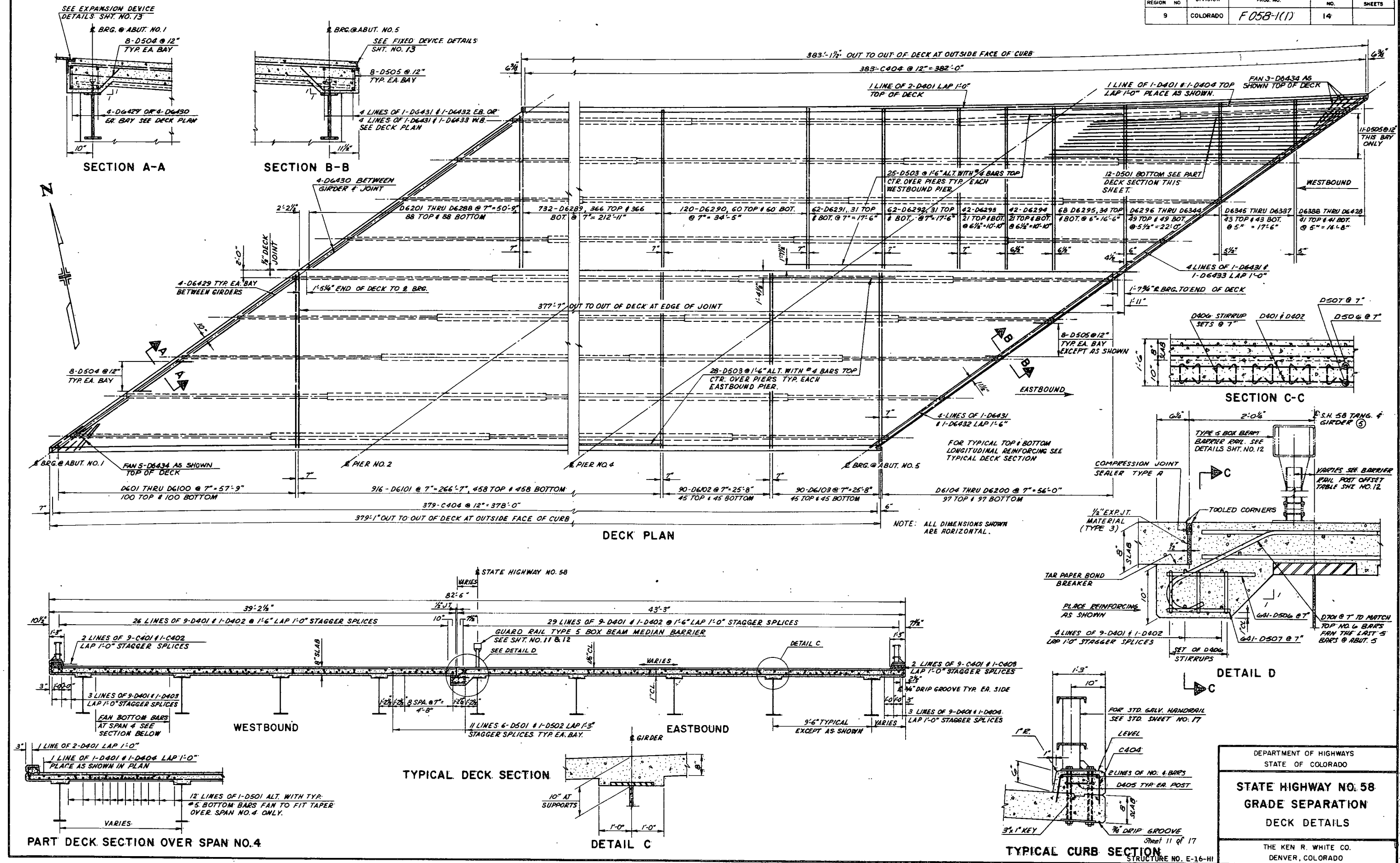
**STATE HIGHWAY NO. 58
GRADE SEPARATION**

PIER NO. 4 DETAILS

THE KEN R. WHITE CO.
DENVER, COLORADO

Sheet 8 of 17
STRUCTURE NO. E-16-HI

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F 058-1(1)	14	

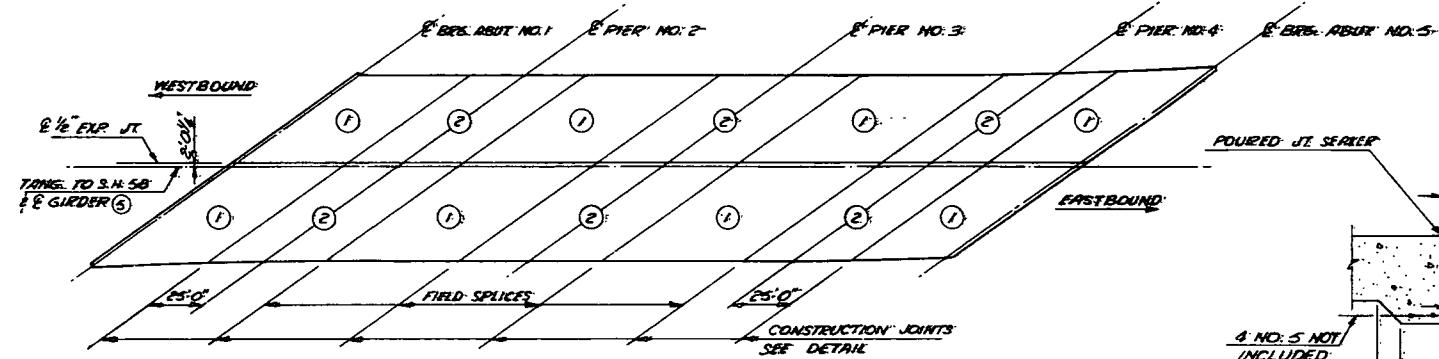


DEPARTMENT OF HIGHWAYS
STATE OF COLORADO

**STATE HIGHWAY NO. 58
GRADE SEPARATION
DECK DETAILS**

THE KEN R. WHITE CO.
DENVER, COLORADO

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F05B-1(1)	15	



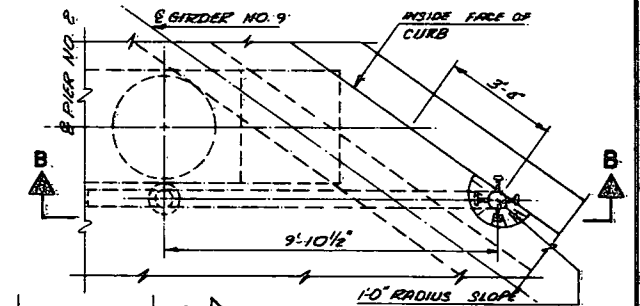
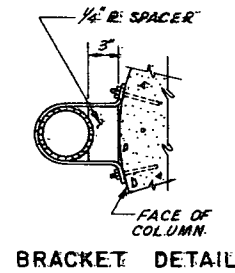
POURING SCHEDULE

EASTBOUND DECK SHALL BE PLACED PRIOR TO WESTBOUND DECK
 OPTION "A"
 ANY COMBINATION OF POURS ① CAN BE MADE SIMULTANEOUSLY. POURS ② SHALL BE MADE AFTER ADJACENT POURS ① ARE COMPLETED
 CONTINUOUS POUR WITHOUT CONSTRUCTION JOINT
 OPTION "B"

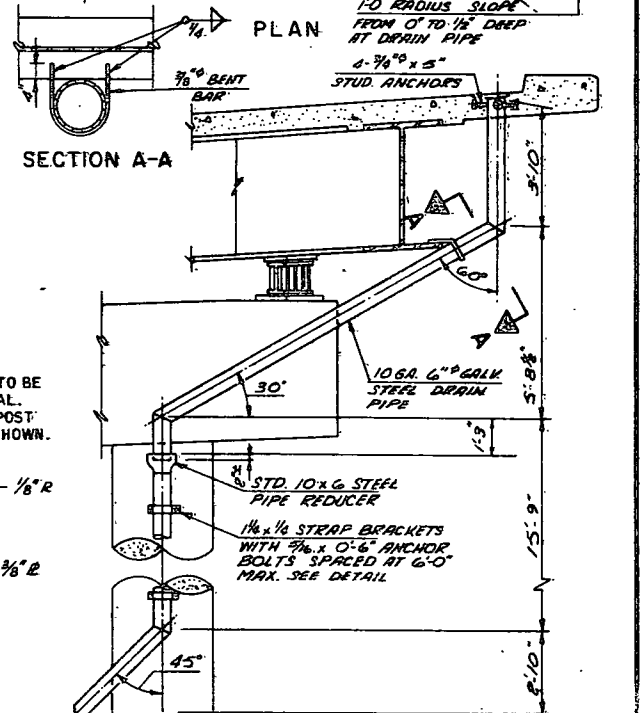
DETAIL OF SLAB CONSTRUCTION JOINT

4 NO. 5 NOT INCLUDED IN BAR LIST
 ADDITIONAL CONCRETE NOT INCLUDED IN ITEM 601

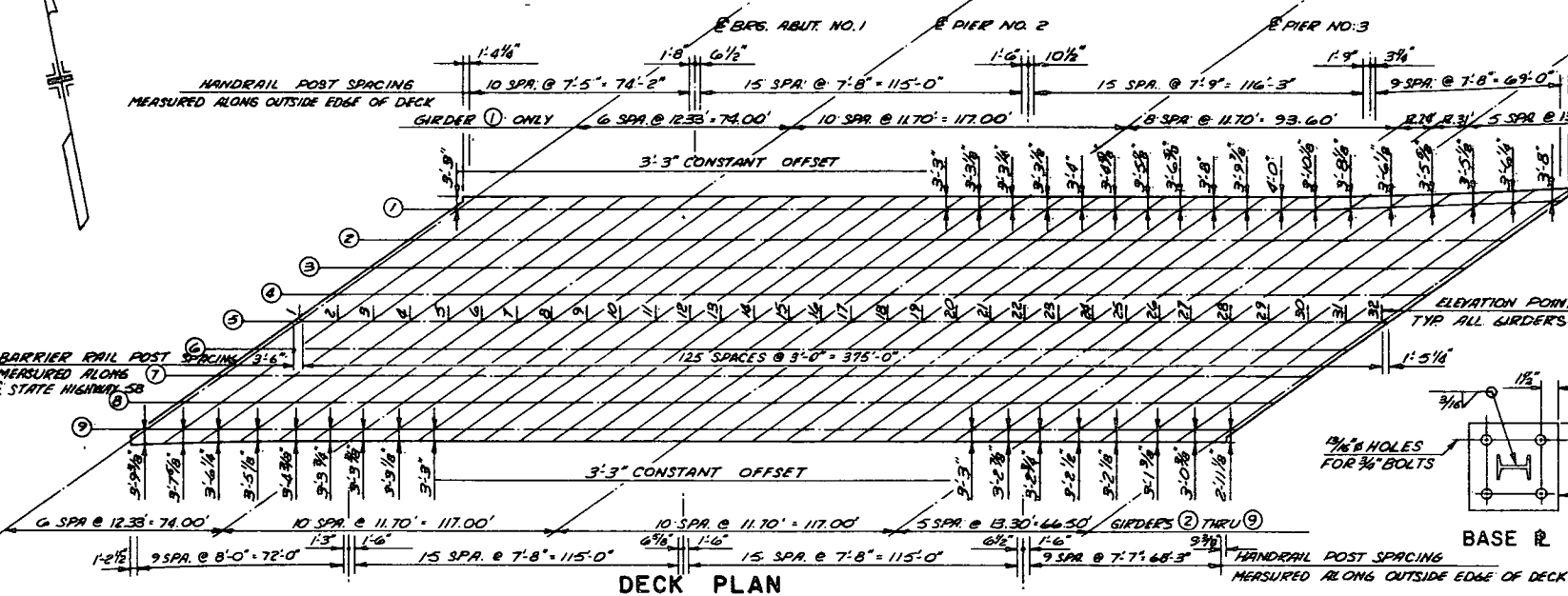
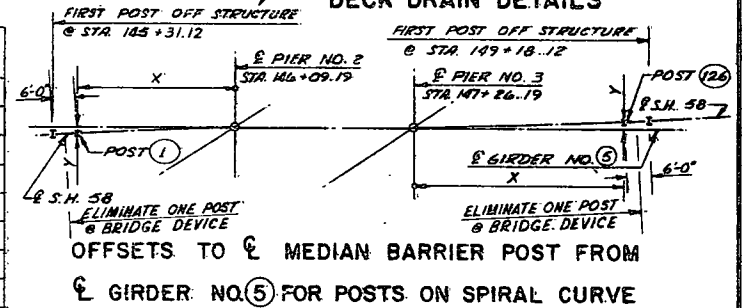
NOTE: 3 UNBOLTED CONCRETE ANCHORS DRILLED INTO DECK OR 3/4" Ø STUD BOLT ANCHORS COMPLETE WITH EXPANSION PLUG SHALL BE USED TO FASTEN R TO DECK.



SECTION A-A

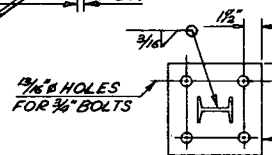


DECK DRAIN DETAILS

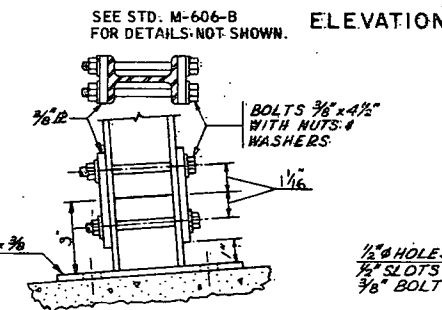


DECK PLAN

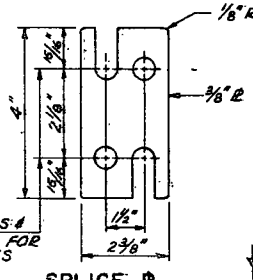
BARRIER RAIL POST DETAILS



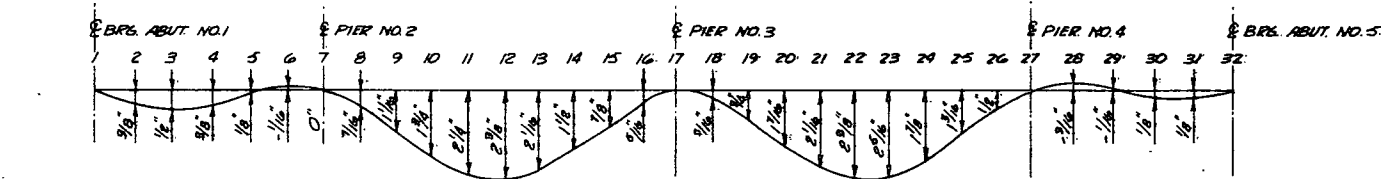
BASE R



ELEVATION



SPLICE R



DEAD LOAD DEFLECTION DIAGRAM

NOTE: WEB R SHALL BE A CONSTANT DEPTH AND CUT TO D.L. DEFLECTION DIAGRAM. GIRDER D.L. DEFLECTION IS 15% OF TOTAL D.L. DEFLECTION.

FROM & PIER NO. 2 TOWARD ABUT. NO. 1:			FROM & PIER NO. 3 TOWARD ABUT. NO. 5								
POST NO.	X	Y	POST NO.	X	Y	POST NO.	X	Y	POST NO.	X	Y
1	72'-0 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	80	47'-11 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	96	95'-11 $\frac{1}{2}$ "	2 $\frac{1}{8}$ "	112	143'-11 $\frac{1}{2}$ "	7 $\frac{1}{8}$ "
3	66'-0 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	182	53'-11 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	98	101'-11 $\frac{1}{2}$ "	2 $\frac{1}{8}$ "	114	149'-11 $\frac{1}{2}$ "	9 $\frac{1}{8}$ "
5	60'-0 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	84	59'-11 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	100	107'-11 $\frac{1}{2}$ "	3 $\frac{1}{8}$ "	116	155'-11 $\frac{1}{2}$ "	10 $\frac{1}{8}$ "
7	54'-0 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	86	65'-11 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	102	113'-11 $\frac{1}{2}$ "	3 $\frac{1}{8}$ "	118	161'-11 $\frac{1}{2}$ "	11 $\frac{1}{8}$ "
9	48'-0 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	88	71'-11 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	104	119'-11 $\frac{1}{2}$ "	4 $\frac{1}{8}$ "	120	167'-11"	1 $\frac{1}{2}$ "
11	42'-0 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	90	77'-11 $\frac{1}{2}$ "	1"	106	125'-11 $\frac{1}{2}$ "	5 $\frac{1}{8}$ "	122	173'-11"	1 $\frac{1}{2}$ "
13	36'-0 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	92	83'-11 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	108	131'-11 $\frac{1}{2}$ "	6"	124	179'-11"	1 $\frac{1}{2}$ "
			94	89'-11 $\frac{1}{2}$ "	1 $\frac{1}{8}$ "	110	137'-11 $\frac{1}{2}$ "	7"	126	185'-11"	1 $\frac{1}{2}$ "

TOP OF DECK ELEVATIONS = 5600.00+

GIRDER NO.	SPAN NO. 1								SPAN NO. 2								SPAN NO. 3								SPAN NO. 4							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1	69.14	68.33	67.51	66.66	65.80	64.99	64.12	63.36	62.61	61.89	61.12	60.34	59.52	58.68	57.83	56.98	56.16	55.38	54.63	53.89	53.14	52.37	51.57	50.74	49.89	48.99	48.10	47.12	46.16	45.21	44.25	43.28
2	69.86	69.07	68.27	67.45	66.61	65.79	64.98	64.24	63.52	62.81	62.08	61.32	60.52	59.70	58.87	58.06	57.26	56.50	55.77	55.06	54.34	53.59	52.81	52.01	51.18	50.36	49.55	48.67	47.81	46.96	46.11	45.25
3	70.52	69.76	68.98	68.18	67.37	66.57	65.79	65.08	64.38	63.69	62.98	62.24	61.47	60.67	59.87	59.08	58.30	57.57	56.86	56.18	55.48	54.75	54.00	53.22	52.41	51.61	50.83	49.97	49.14	48.32	47.49	46.65
4	71.13	70.40	69.64	68.87	68.08	67.30	66.54	65.86	65.18	64.52	63.83	63.12	62.37	61.59	60.81	60.04	59.29	58.58	57.90	57.24	56.56	55.86	55.13	54.37	53.59	52.81	52.05	51.22	50.41	49.62	48.81	48.00
5	71.69	70.98	70.25	69.50	68.74	67.98	67.25	66.58	65.93	65.29	64.63	63.93	63.21	62.46	61.70	60.96	60.23	59.54	58.88	58.24	57.59	56.92	56.21	55.47	54.71	53.96	53.22	52.42	51.63	50.86	50.08	49.29
6	72.20	71.51	70.80	70.08	69.34	68.61	67.90	67.26	66.63	66.01	65.37	64.70	64.00	63.27	62.54	61.82	61.11	60.45	59.81	59.20	58.57	57.92	57.23	56.52	55.78	55.05	54.34	53.56	52.80	52.06	51.30	50.53
7	72.66	71.99	71.31	70.60	69.89	69.18	68.50	67.88	67.28	66.68	66.06	65.42	64.74	64.03	63.32	62.62	61.94	61.30	60.69	60.10	59.49	58.86	58.20	57.51	56.80	56.09	55.40	54.64	53.91	53.19	52.46	51.72
8	73.07	72.43	71.76	71.08	70.39	69.71	69.04	68.45	67.87	67.29	66.70	66.08	65.42	64.74	64.06	63.38	62.72	62.10	61.52	60.94	60.36	59.76	59.12	58.45	57.76	57.08	56.41	55.68	54.97	54.28	53.57	52.86
9	73.43	72.81	72.17	71.51	70.84	70.18	69.54	68.96	68.41	67.85	67.28	66.69	66.05	65.40	64.73	64.08	63.44	62.85	62.29	61.74	61.18	60.60	59.98	59.34	58.67	58.01	57.36	56.66	55.98	55.31	54.63	53.94

NOTE: ALL ELEVATIONS INCLUDE DEAD LOAD DEFLECTION.

DEPARTMENT OF HIGHWAYS
 STATE OF COLORADO

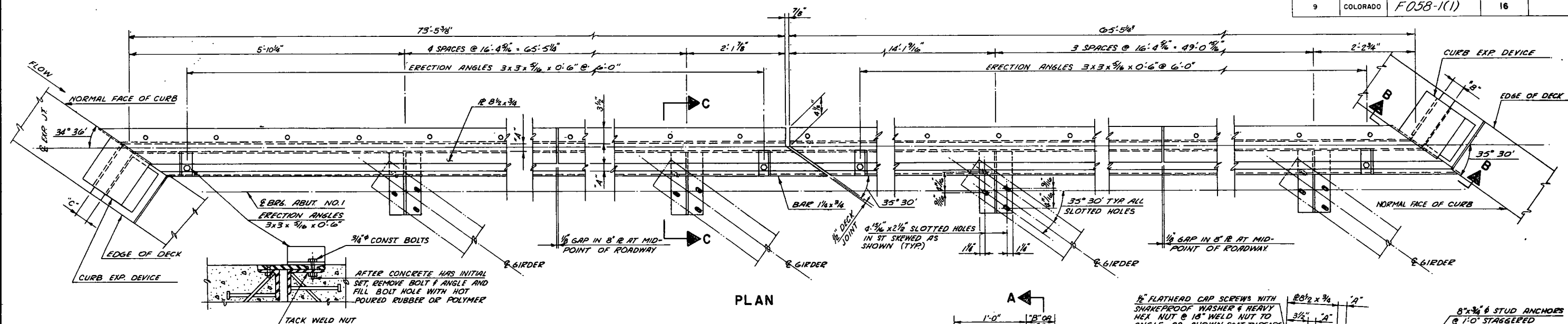
STATE HIGHWAY NO. 58
GRADE SEPARATION
MISCELLANEOUS DETAILS

 THE KEN R. WHITE CO.
 DENVER, COLORADO

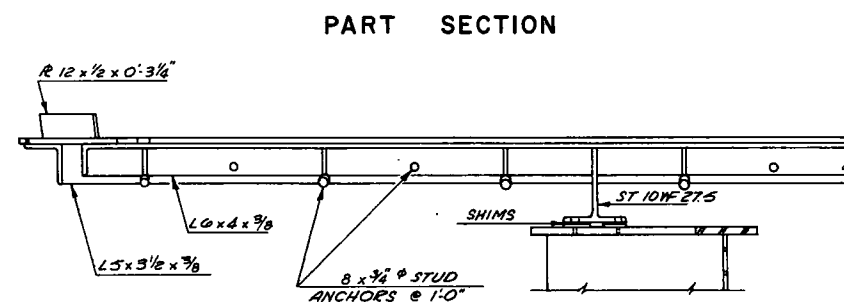
Sheet 12 of 17

STRUCTURE NO. E-16-HI

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F058-1(1)	16	

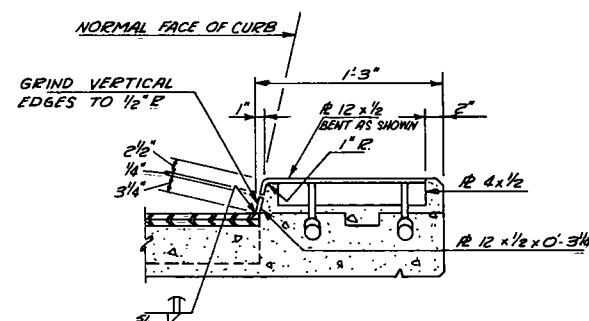


PLAN

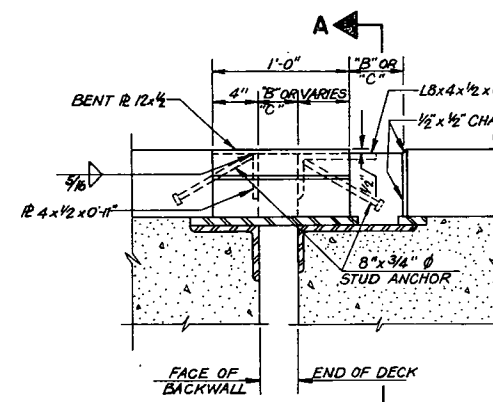


PART SECTION

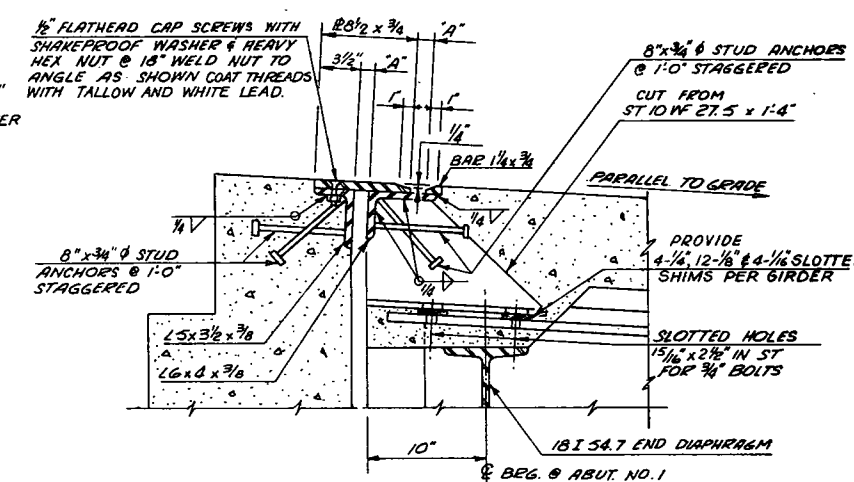
PART ELEVATION



SECTION A-A



SECTION B-B

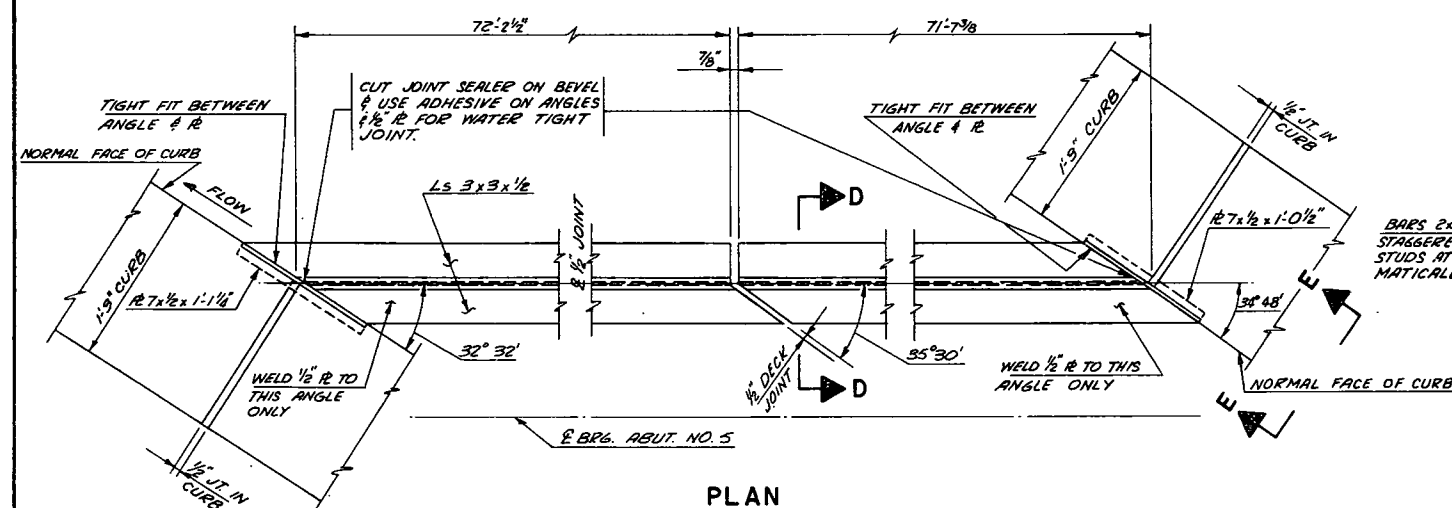


SECTION C-C

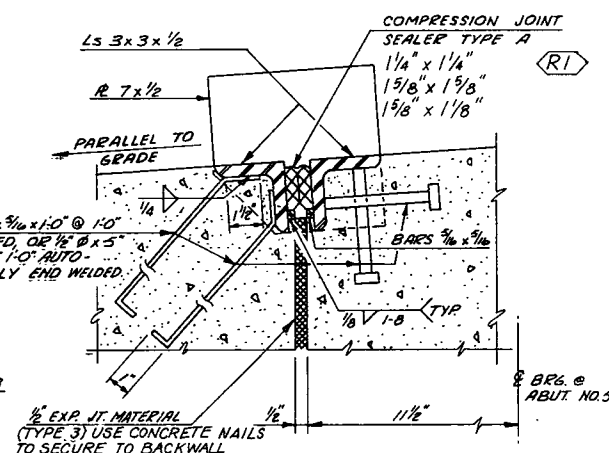
EXPANSION DEVICE DETAILS ABUT. NO. 1

TEMPERATURE VARIATION TABLE ABUTMENT NO. 1				
TEMP. °F	DIMENSION A	DIMENSION B	DIMENSION C	
40°	2 1/8"	4 1/8"	4 1/2"	
60°	2"	3 7/8"	3 1/2"	
80°	1 7/8"	2 1/2"	2 1/8"	
100°	1 1/8"	1 1/2"	1 1/4"	

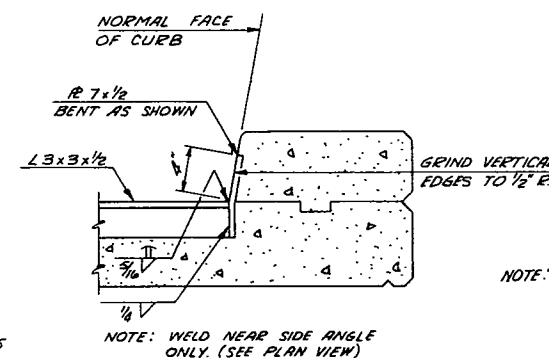
NOTE: ALL DIMENSIONS SHOWN ARE HORIZONTAL



PLAN



SECTION D-D



SECTION E-E

DETAILS OF DECK FIXED DEVICE AT ABUTMENT NO. 5

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO

STATE HIGHWAY NO. 58
GRADE SEPARATION
**DECK EXPANSION &
FIXED DEVICE DETAILS**

THE KEN R. WHITE CO.
DENVER, COLORADO

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F058-K(1)	17	

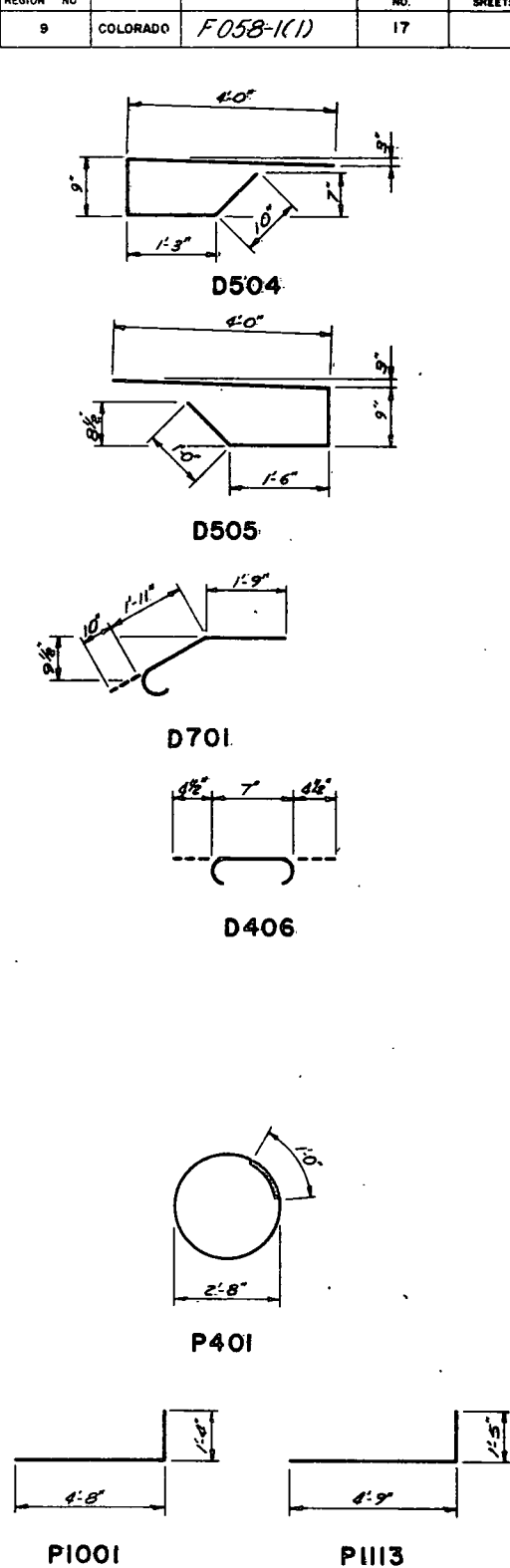
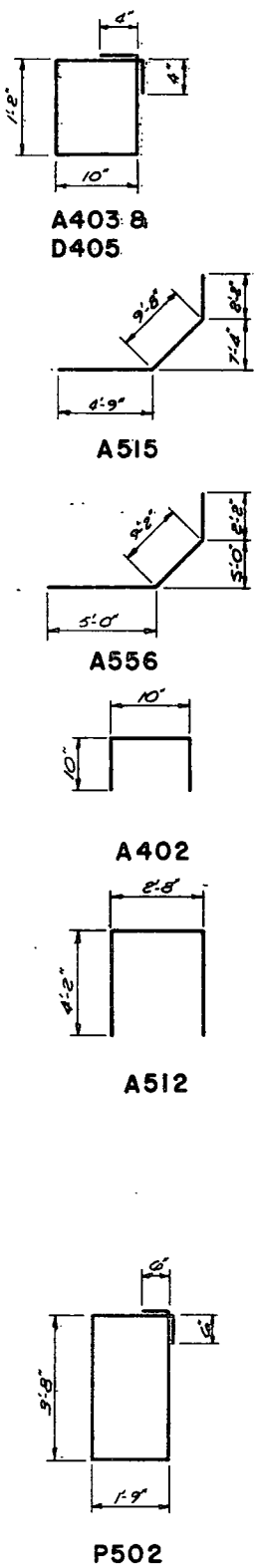
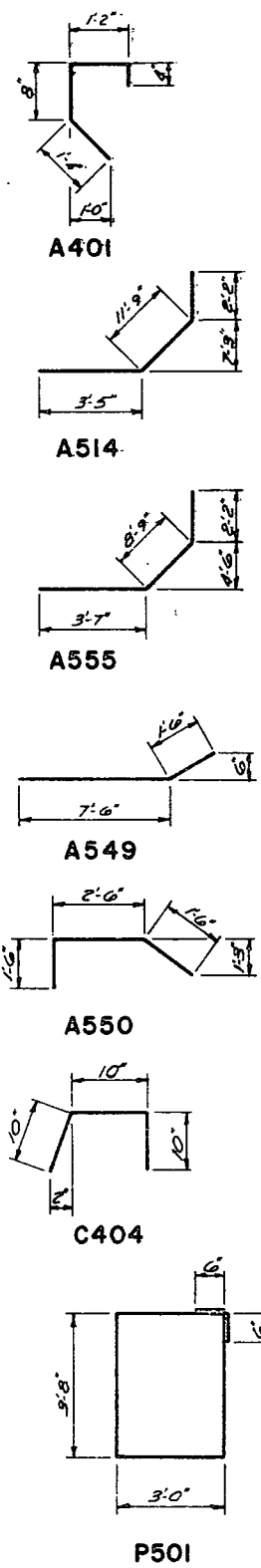
ABUTMENTS				
MARK	SHAPE	NO. REQUIRED		LENGTH
		ABUT. 1	ABUT. 5	
A401		136	140	3'-6"
A402		19	18	2'-6"
A403		4	4	4'-8"
A501		128	137	5'-0"
A502		1	1	1'-2"
THRU		OF	OF	BY 8"
A507		EACH	EACH	4'-6"
A508		1		3'-6"
A509		1		1'-6"
A510		36	32	60'-0"
A511		4		23'-0"
A512		139	143	11'-0"
A513		278		7'-5"
A514		2		17'-4"
A515		2		16'-7"
A516		12		7'-6"
A517		6		9'-0"
A518		1		4'-9"
THRU		OF		BY 1'-3"
A523		EACH		11'-0"
A524		2		2'-6"
THRU		OF		BY 9"
A532		EACH		8'-6"
A533		2	2	12'-8"
A534		4		10'-7"
A535		1		5'-9"
THRU		OF		BY 10"
A540		EACH		9'-11"
A541		2		8'-9"
THRU		OF		BY 1'-1"
A546		EACH		3'-4"
A547		2	2	11'-2"
A548		4		7'-8"
A549		16	11	9'-0"
A550		15	13	5'-6"
A551			1	4'-2"
A552			1	2'-1"
A553			4	27'-10"
A554			286	7'-4"
A555		2		14'-6"
A556		2		16'-4"
A557		4		6'-2"
A558		4		7'-3"
A559		8		6'-6"
A560		4		7'-7"
A561		1		5'-6"
THRU		OF		BY 1'-8"
A564		EACH		10'-6"
A565		2		2'-11"
THRU		OF		BY 8"
A571		EACH		6'-11"
A572		4		9'-0"
A573		1		6'-8"
THRU		OF		BY 1'-6"
A576		EACH		11'-2"
A577		2		6'-9"
THRU		OF		BY 8"
A583		EACH		2'-9"
A584		4		9'-2"
A585		14		14'-0"
A586			12	12'-9"
A587		9		4'-0"
A588		14		9'-3"
A589			12	15'-8"

ABUTMENTS				
MARK	SHAPE	NO. REQUIRED		LENGTH
		ABUT. 1	ABUT. 5	
A601		1		4'-9"
THRU		OF		BY 1'-3"
A606		EACH		11'-0"
A607		2	2	12'-8"
A608		1		5'-9"
THRU		OF		BY 10"
A613		EACH		9'-11"
A614		2	2	11'-2"
A615			1	5'-6"
THRU		OF		BY 1'-8"
A618		EACH		10'-6"
A619		1		6'-8"
THRU		OF		BY 1'-6"
A622		EACH		11'-2"
A701		14	14	60'-0"
A702		2		24'-0"
A703		2	1	24'-11"
A704		1		22'-2"
A705		1		19'-9"
A706		1		18'-6"
A707			2	29'-1"
A708			2	30'-0"
A709			1	26'-10"
A710			1	23'-3"
A901		8	8	60'-0"
A902		4		28'-3"
A903			4	33'-0"

PIERS.					
MARK	SHAPE	NO. REQUIRED			LENGTH
		PIER 2	PIER 3	PIER 4	
P401		126	166	120	9'-4"
P402		12	12	12	40'-0"
P403		4	4		16'-8"
P404				4	18'-6"
P501		48	48	34	14'-4"
P502		96	96	120	11'-10"
P601		168	168		7'-8"
P602				96	5'-8"
P1001		72	72	48	6'-0"
P1002		12			21'-11"
P1003		12			22'-8"
P1004		12		12	23'-2"
P1005		12			23'-11"
P1006		12			24'-5"
P1007		12			25'-2"
P1008			12		27'-5"
P1009			12		28'-8"
P1010			12		29'-8"
P1011			12		30'-11"
P1012			12		31'-11"
P1013			12		33'-2"
P1014				12	20'-2"
P1015				12	21'-8"
P1016				12	24'-8"
P1101		16	16	16	60'-0"
P1102		4	4		23'-2"
P1103		4	4		19'-4"
P1104		13	12	16	11'-0"
P1105		8	8		14'-0"
P1106		8	10		12'-0"
P1107		4	10	6	9'-0"
P1108			2		8'-0"
P1109				4	25'-0"
P1110				4	21'-2"
P1111				12	7'-0"
P1112				4	10'-0"
P1113				28	6'-2"
P1114				14	18'-11"
P1115				14	26'-5"

NOTE: ALL DIMENSIONS ARE OUT TO OUT OF BAR

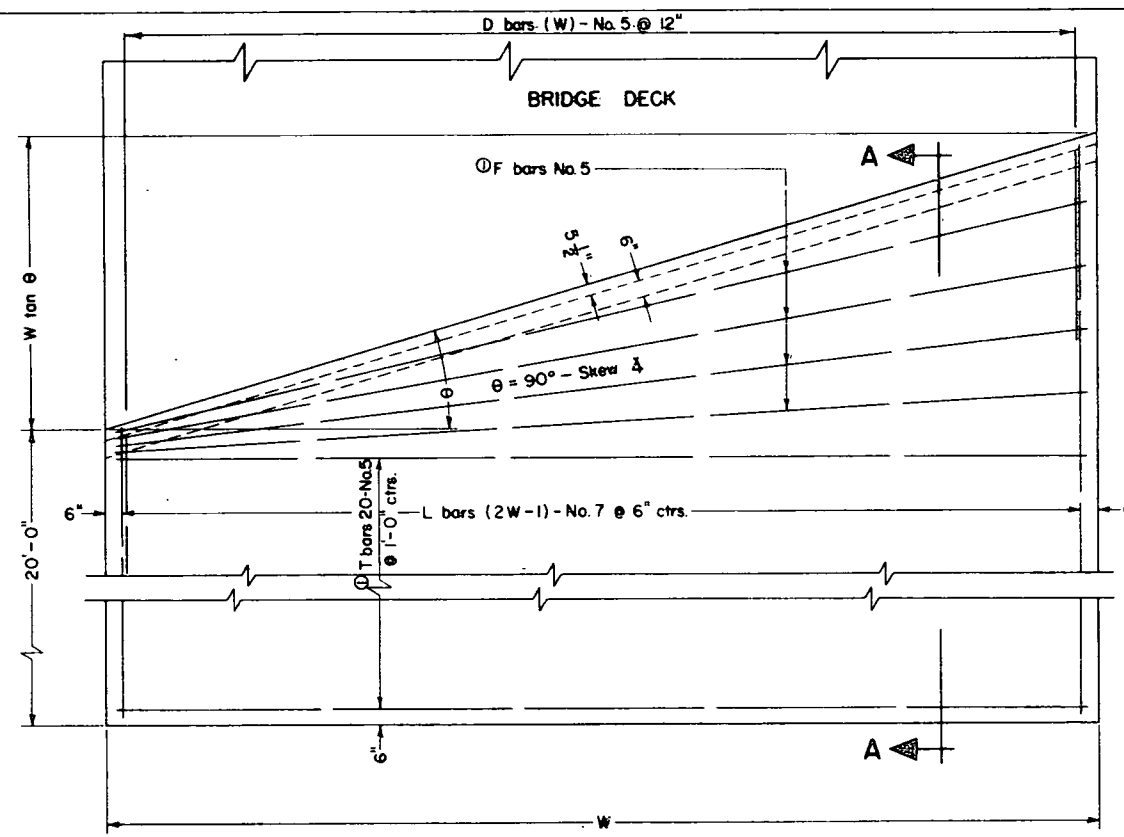
SUPERSTRUCTURE			
MARK	SHAPE	NO. REQUIRED	LENGTH
C401		36	40'-0"
C402		2	32'-0"
C403		2	28'-5"
C404		762	2'-6"
D401		588	40'-0"
D402		59	26'-11"
D403		3	32'-0"
D404		4	28'-5"
D405		105	4'-8"
D406		1923	1'-4"
D501		540	60'-0"
D502		88	24'-9"
D503		159	30'-0"
D504		64	6'-10"
D505		67	7'-3"
D506		641	1'-6"
D507		641	1'-0"
D601		2	1'-3"
THRU		OF	BY 5"
D6100		EACH	42'-6"
D6101		916	42'-11"
D6102		90	42'-9"
D6103		90	42'-6"
D6104		2	41'-1"
THRU		OF	BY 5"
D6200		EACH	1'-1"
D6201		2	0'-11"
THRU		OF	BY 5"
D6288		EACH	37'-2"
D6289		732	38'-11"
D6290		120	39'-0"
D6291		62	39'-2"
D6292		62	39'-4"
D6293		42	39'-7"
D6294		42	39'-10"
D6295		68	40'-1"
D6296		2	40'-0"
THRU		OF	BY 3 3/4"
D6344		EACH	25'-0"
D6345		2	24'-9"
THRU		OF	BY 3 1/2"
D6387		EACH	12'-6"
D6388		2	12'-7"
THRU		OF	BY 3 1/2"
D6428		EACH	0'-11"
D6429		28	16'-0"
D6430		4	12'-5"
D6431		8	60'-0"
D6432		4	14'-6"
D6433		4	13'-0"
D6434		8	8'-0"
D701		641	4'-6"



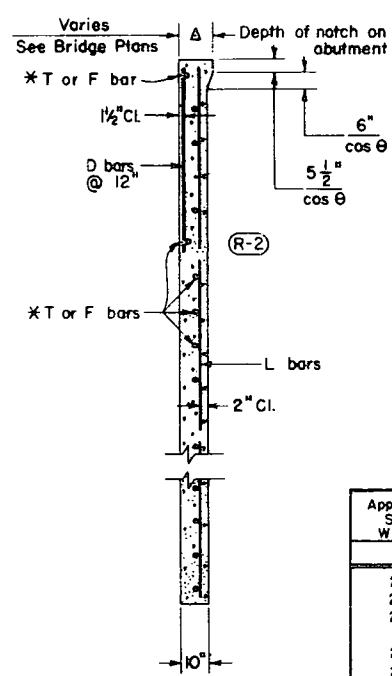
STANDARD M-412-B (JULY 1, 1965)

FEDERAL ROAD REGION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F058-1(1)	18	

REVISIONS		
(R-1)	11-16-65	Curb subtitles. M.R.H.
(R-2)	4-6-66	T & F bars and *Note M.R.H.
(R-3)	12-8-66	Exp. Joint Mat'l. - Detail "K". M.R.H.
(R-4)	1-24-67	Exp. Joint Mat'l. - Ø Note M.R.H.

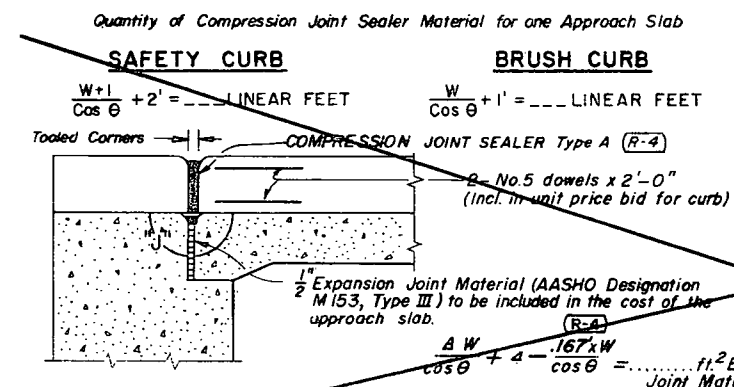


APPROACH SLAB - PLAN

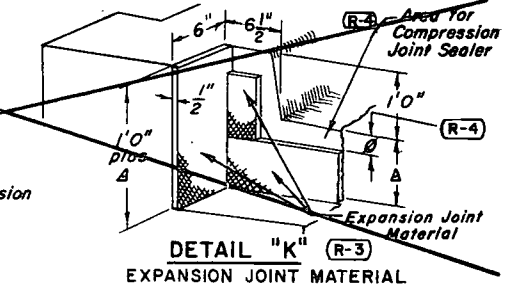


SECTION A-A

* Includes 2 T or F bars placed in top of slab as shown.



DETAIL AT BRIDGE ABUTMENT

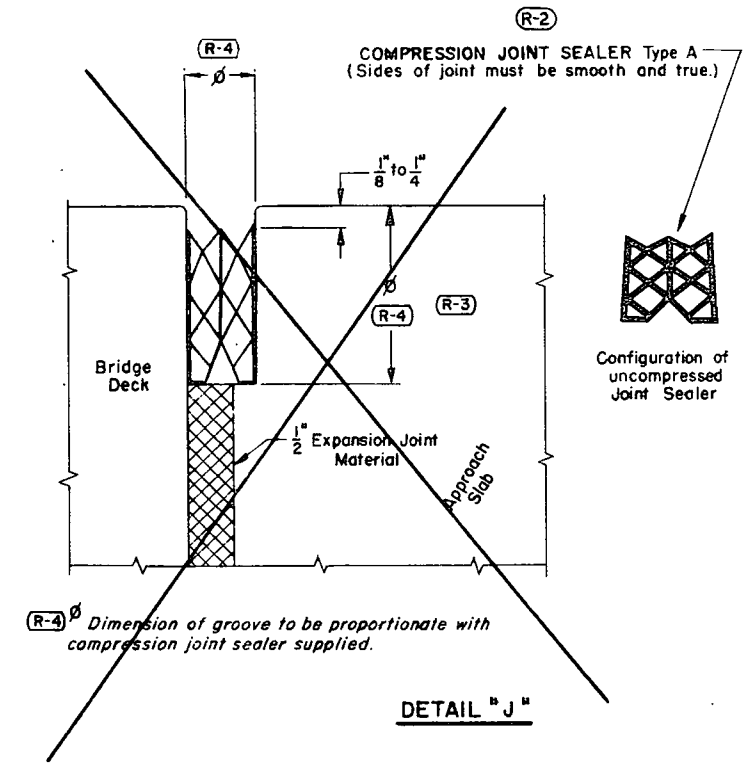


DETAIL "K" EXPANSION JOINT MATERIAL

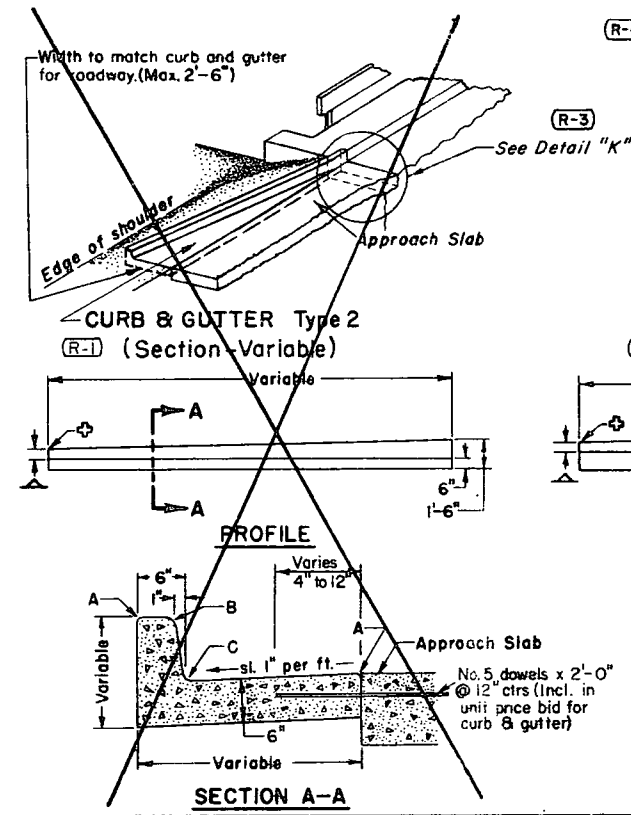
Bar List and Quantities required for one Approach Slab

Approach Slab Width	T = No. 5; Str.		D = No. 5; Str.		L = No. 7; Str.		F = No. 5; Str.		Reinforcing Steel (Lbs.)			Additional Steel for Skew (Lbs.)		Concrete Pavement (Sq. Yds.)
	W	* No.	No.	Length	No.	Length	* No.	Length	T Bar	D Bar	L Bar	F Bar	L Bar	
20	20	19'-6"	20	5'-0"	39		10 tan θ	19'-6"	411	105	1570	205 tan θ	765 tan θ	44.4 + 22.2 tan θ
22	22	21'-6"	22		43		11 tan θ	21'-6"	452	116	1731	249 tan θ	932 tan θ	48.9 + 26.9 tan θ
24	24	23'-6"	24		47		12 tan θ	23'-6"	494	126	1892	297 tan θ	1116 tan θ	53.3 + 32.0 tan θ
26		25'-6"	26		51		13 tan θ	25'-6"	537	137	2053	349 tan θ	1316 tan θ	57.8 + 37.6 tan θ
28		27'-6"	28		55		14 tan θ	27'-6"	580	147	2214	406 tan θ	1533 tan θ	62.2 + 43.6 tan θ
30		29'-6"	30		59		15 tan θ	29'-6"	621	158	2375	466 tan θ	1766 tan θ	66.7 + 50.0 tan θ
32		31'-6"	32		63		16 tan θ	31'-6"	663	169	2536	531 tan θ	2016 tan θ	71.1 + 56.9 tan θ
34		33'-6"	34		67		17 tan θ	33'-6"	706	179	2697	600 tan θ	2282 tan θ	75.6 + 64.2 tan θ
36		35'-6"	36		71		18 tan θ	35'-6"	748	190	2858	673 tan θ	2565 tan θ	80.0 + 72.0 tan θ
38		37'-6"	38		75		19 tan θ	37'-6"	790	200	3019	751 tan θ	2864 tan θ	84.4 + 80.2 tan θ
40		39'-6"	40		79		20 tan θ	39'-6"	832	211	3180	832 tan θ	3180 tan θ	88.9 + 88.9 tan θ
42		41'-6"	42		83		21 tan θ	41'-6"	874	221	3341	918 tan θ	3513 tan θ	93.3 + 98.0 tan θ
44		43'-6"	44		87		22 tan θ	43'-6"	916	232	3502	1008 tan θ	3862 tan θ	97.8 + 107.6 tan θ
46		45'-6"	46		91		23 tan θ	45'-6"	958	242	3663	1102 tan θ	4227 tan θ	102.2 + 117.6 tan θ
48		47'-6"	48		95		24 tan θ	47'-6"	1001	253	3824	1201 tan θ	4609 tan θ	106.7 + 128.0 tan θ
50		49'-6"	50		99		25 tan θ	49'-6"	1043	263	3985	1304 tan θ	5007 tan θ	111.1 + 138.9 tan θ
52		51'-6"	52		103		26 tan θ	51'-6"	1084	274	4146	1411 tan θ	5422 tan θ	115.6 + 150.2 tan θ
54		53'-6"	54		107		27 tan θ	53'-6"	1127	284	4307	1522 tan θ	5854 tan θ	120.0 + 162.0 tan θ

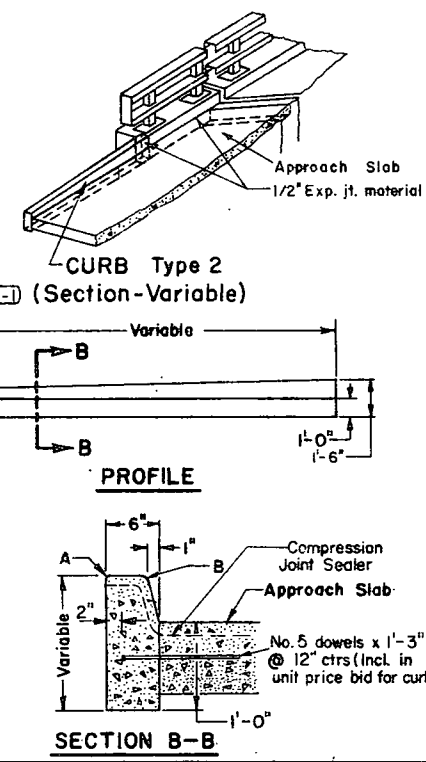
(R-4) Lengths shown include 1 percent for overrun.



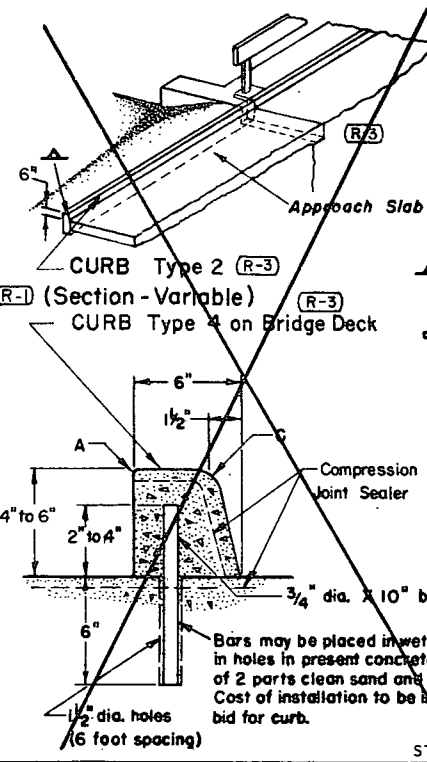
DETAIL "J"



SECTION A-A



SECTION B-B



GENERAL NOTES

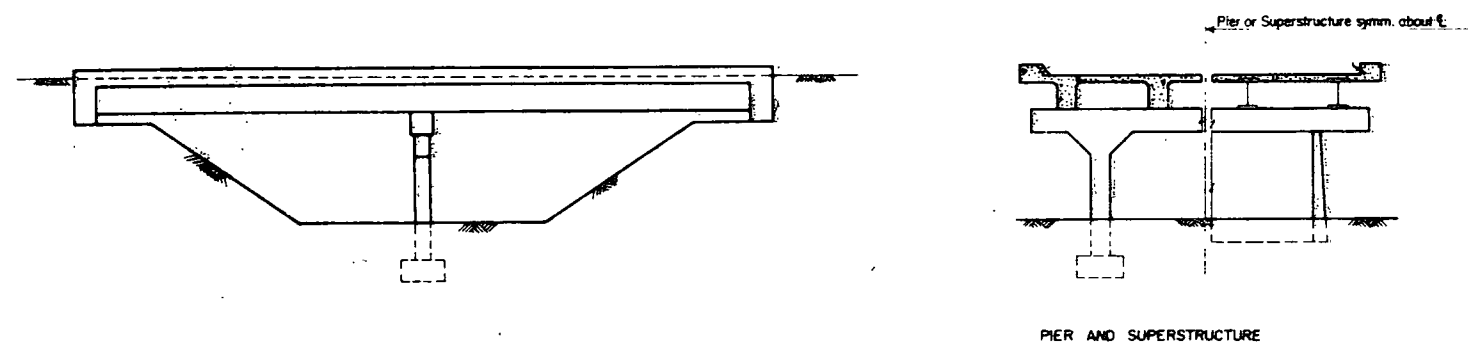
- Concrete for Approach slabs shall be Class "P" (R-1)
- Approach slab shall be paid for under Section 412 as "Concrete Pavement" of the specified thickness.
- Reinforcing Steel required in Approach Slab will be paid for under Section 602.
- Class "A" concrete aggregate may be used in the pavement.
- 6" min. curb height when no curb is used on abutting roadway. (R-1)
- 4" where Bituminous Curbing is used. (Shape bituminous curb to meet concrete curb.)
- 6" To meet concrete Curb or Curb and Gutter. (R-1)
- Use 1/2" R. when no bituminous or concrete curb is to be met. No radius required when meeting bituminous or concrete curb.

LEGEND FOR RADII	
A	= 1/8"
B	= 1"
C	= 1 1/2"

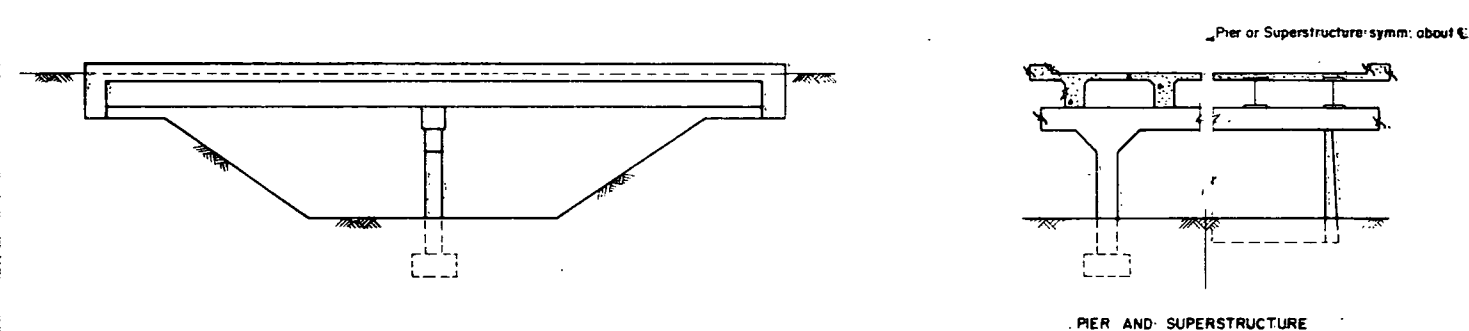
DESIGNED BY J. G. G. APPROVED BY J. G. G.
MADE BY J. G. G. CHECKED BY J. G. G.
DATE: JULY 1, 1965

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
CONCRETE PAVEMENT
BRIDGE APPROACH
SLAB

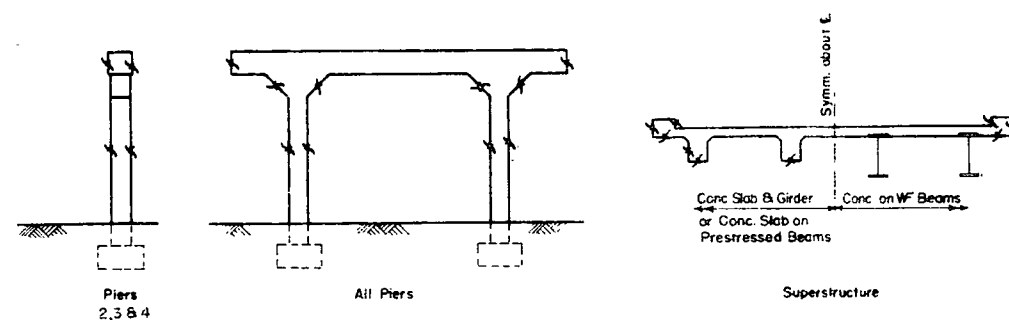
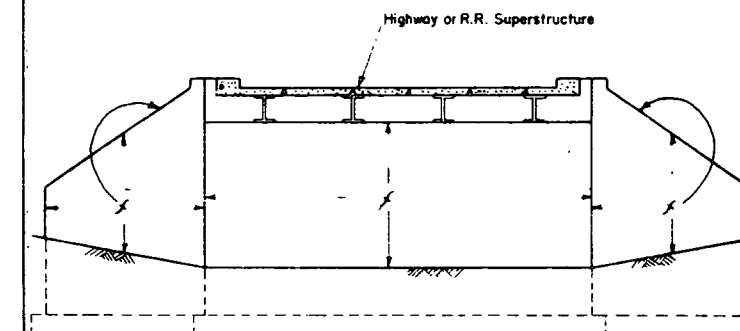
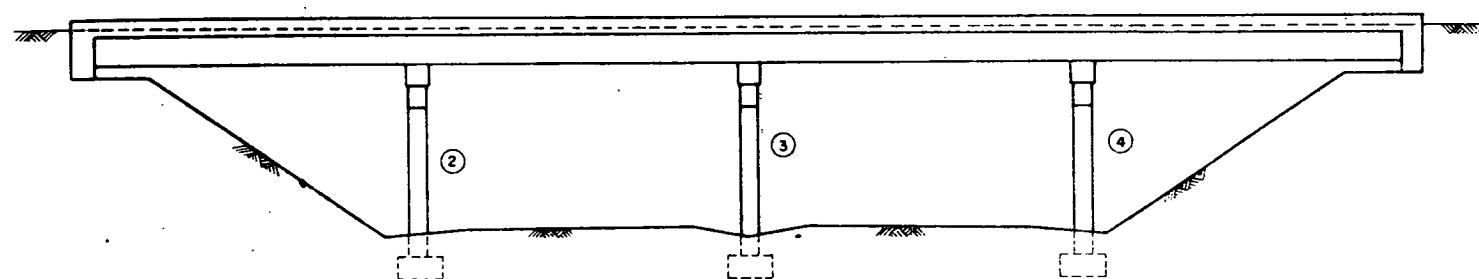
FED. ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F058-101	19	



RURAL STREAM CROSSING



STREAM CROSSING IN OR NEAR URBAN AREA



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

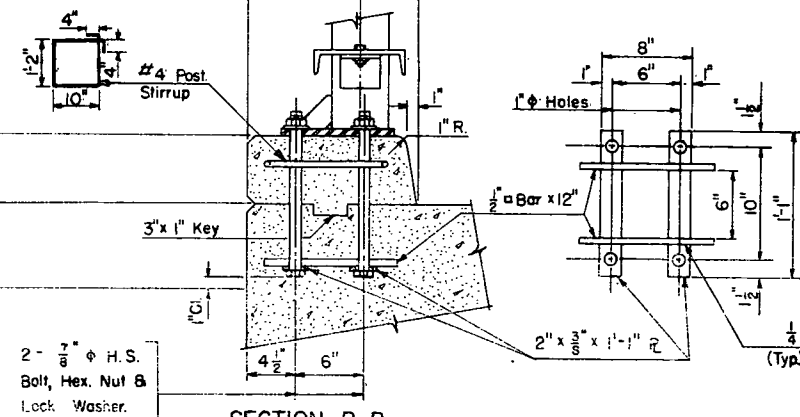
UNDERPASS

COLORADO			
DEPARTMENT OF HIGHWAYS			
DETAILS SHOWING PORTIONS OF STRUCTURE TO RECEIVE CLASS 2 SURFACE FINISH.			
Across	Sta.	Sec.	T. R.
Near			
Designed by: A.D.N.	Approved by		
Made by: R.R.A.-J.B.	Bridge Engineer		
Checked by	Date:	19	

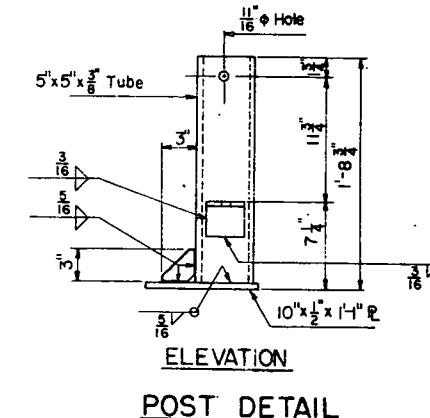
Sheet 16 of 17

STRUCTURE NO: E-16-HI

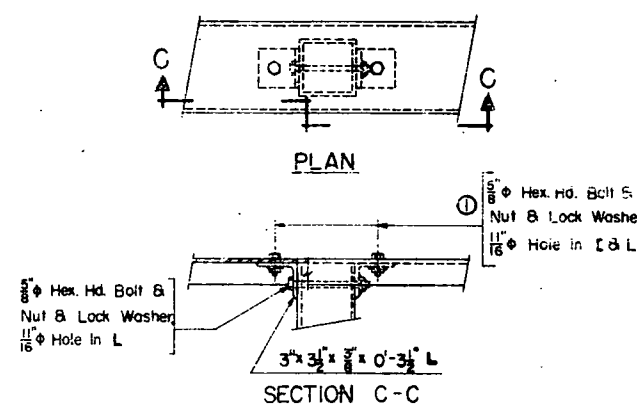
	Initial	Date
SIGNED BY		
CHECKED BY		
OWN BY		
CHECKED BY		
CEDED BY		
CHECKED BY		



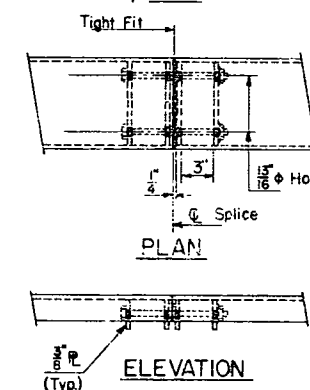
END ANCHORED POST
No. Req'd 8



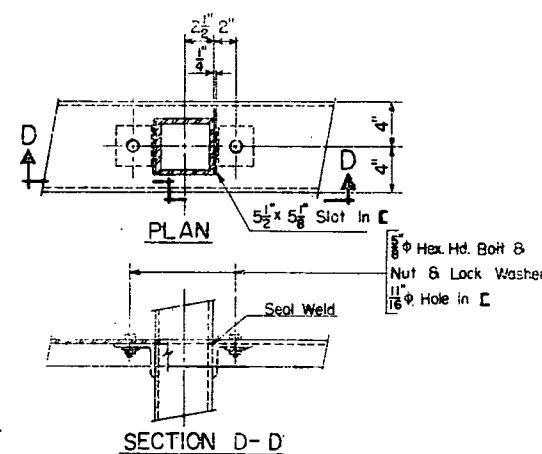
POST DETAIL



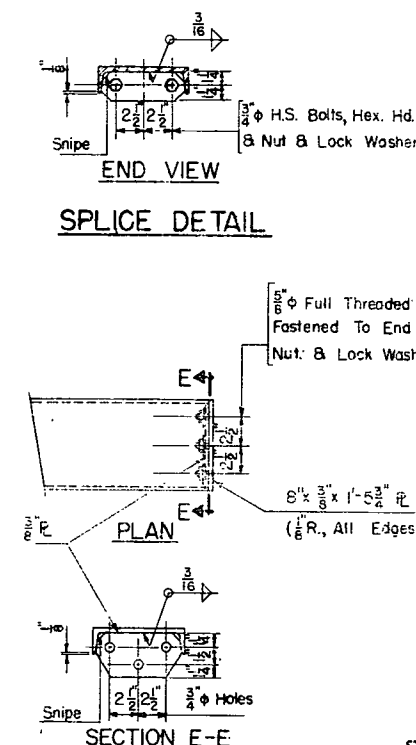
DETAIL AT TOP RAIL



SPLICE DETAIL



DETAIL AT BOTTOM RAIL



END: PLATE DETAIL No. Reg'd 4

4 (5-14-68)

Across _____ Sta _____
Near _____ Sec. _____ T. _____ R. _____

Designed by _____ Made by RMM Checked by _____	Approved by _____ Bridge Engineer Date: _____ 19 _____
--	--

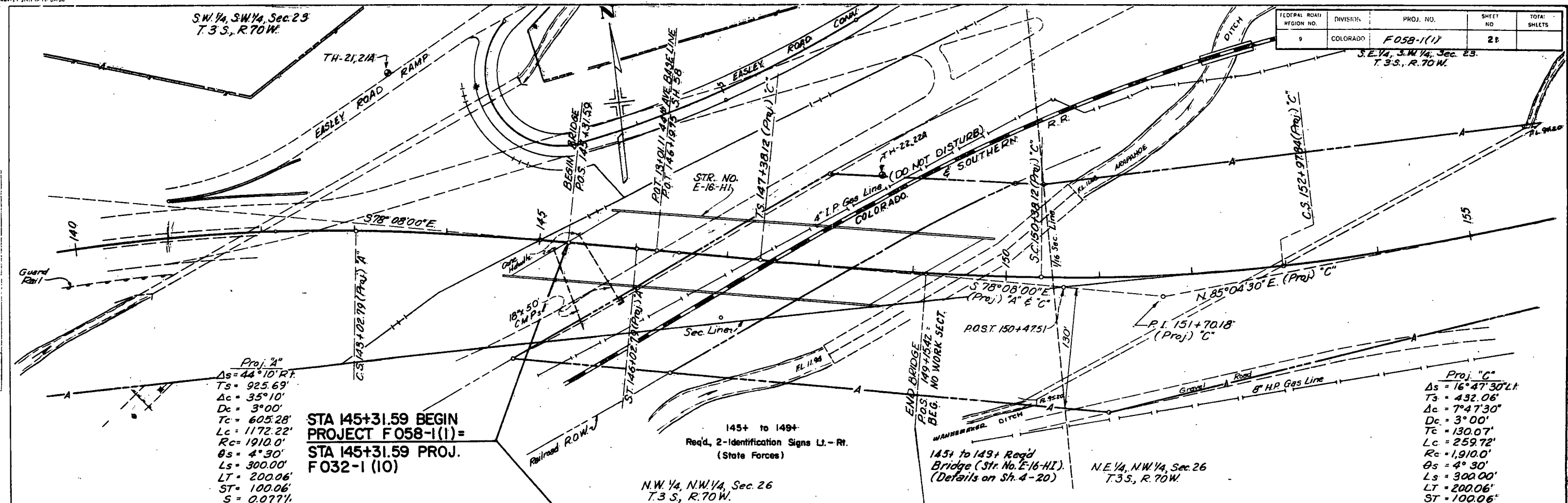
Complete Unit Shall Be Galvanized After Fabrication
Detail Shown Is For Right Hand Rail. No. Req'd. 2
Opposite Hand For Left Hand Rail. No. Req'd. 2

Sheet 17 of 17
STRUCTURE NO. E-16-H1
DWG. NO. B OF

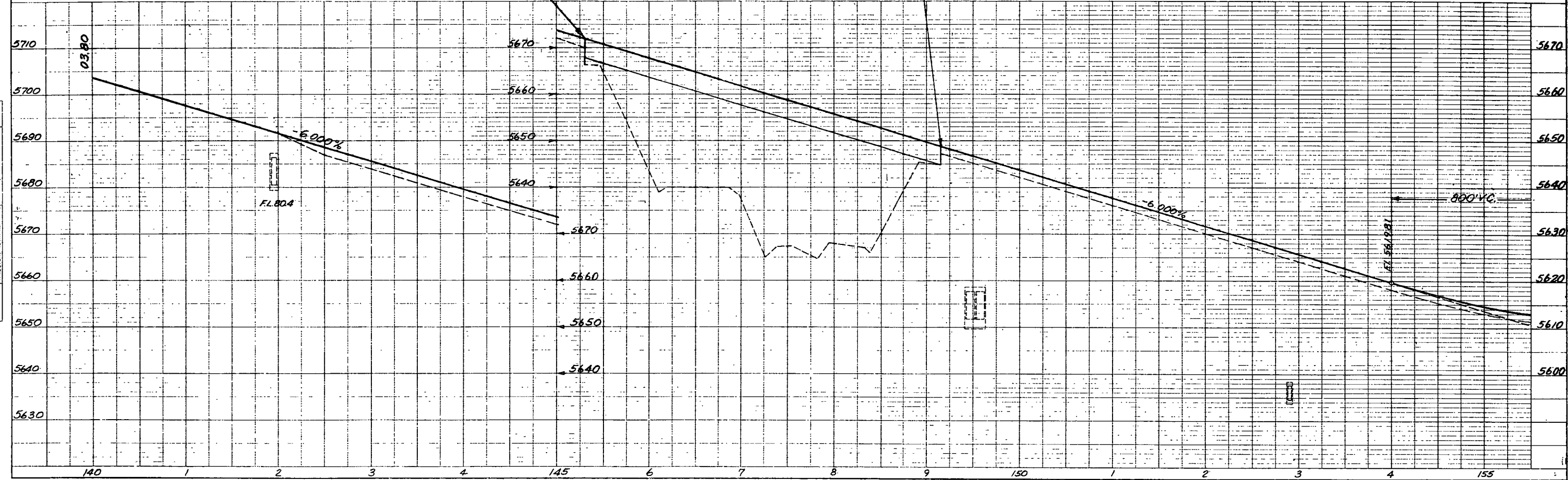
FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F058-1(1)	28	

S.E. 1/4, S.W. 1/4, Sec. 23,
T. 3 S., R. 70 W.

PLAN
NOTE BOOK
NO. 100



PROFILE
NOTE BOOK
NO. 100



FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F 058-1(1)	22	

PLAN	CHECKED	DATE
NOTE BOOK	ALIGNED	RT. 27
NO.	CHECKED	

PROFILE	FLATTED	DATE
NOTE BOOK	GRADES CHECKED	
NO.	STRUCTURE NOTING	

